Appendix D:

D.1: Detailed Assumptions for TRANSDEF Smart Growth Alternative

D.2: Comparison of ABAG and TRANSDEF Smart Growth Alternative Projections, 2000-2030

Appendix D.1: TRANSDEF Smart Growth Alternative

This appendix presents detailed information about the alternative supplied by the Transportation Solutions Defense and Education Fund (TRANSDEF), a transportation advocacy organization, as provided for in the Settlement Agreement and Release entered into by TRANSDEF, Citizens for Better Environment (CBE), Bay Area Air Quality Management District, and MTC in March 2004. TRANSDEF has defined an alternative set of land use and transportation planning assumptions aimed at enhancing transit use, biking and walking as preferred transportation modes in the future. This is to be achieved by concentrating new residential development in existing urban areas, implementing pricing strategies to discourage auto use while increasing the attractiveness of transit, biking and walking, and expanding certain aspects of the regional bus and rail transit network in ways TRANSDEF believes would be more cost effective than current proposals.

LAND USE ASSUMPTIONS

TRANSDEF has developed its own set of land use assumptions for this alternative, which are different than those used in the Proposed Project and the other four EIR alternatives. These land use assumptions have not been reviewed by local governments or by the public and are not the current set of land use projections adopted by ABAG (*Projections 2003*).

The TRANSDEF alternative seeks to redistribute growth in the region within existing cities and within the footprint of existing development. In many existing neighborhoods no new development occurs, so they remain as they are in 2000. The TRANSDEF alternative land use scenario is patterned after the Network of Neighborhoods Alternative of the Regional Agencies Smart Growth Strategies/Regional Livability Footprint Project (called "Smart Growth Project" for short), one of three conceptually different land use alternatives that were initially considered. Development is clustered along transit corridors and at transit nodes. Over the next 25 years, this alternative assumes that the increasing value of land will lead to the densification of arterial corridors all around the region.

To enable the TRANSDEF alternative's demographic assumptions to be comparable with the Proposed Project and the other alternatives evaluated in this EIR, total jobs, employed residents, households and household population are the same as the ABAG *Projections 2003* regional totals. However, TRANSDEF reduces the total residential land use by 58,400 acres, from 651,800 acres in Projections 2003 to 593,400 acres in the TRANSDEF alternative. TRANSDEF reduces the total acres of residential land uses in rural (less than 500 persons square mile), rural/suburban (500 to 1,000 persons per square mile), suburban (1,000 to 10,000 persons per square mile), and urban (10,000 to 20,000 persons per square mile) areas but increases it in the urban core (greater than 20,000 persons per square miles) where generally good transit service is available. In addition, TRANSDEF increased the net residential densities (households per residential land use in square miles) by 9.8 percent, from 3,129 households per square mile in Projections 2003 to 3,437 households per square mile in the TRANSDEF alternative. A main strategy for accommodating new growth is the redevelopment of low-intensity uses along existing arterial streets served by

buses into mixed-use commercial and housing, particularly multi-family, condominiums, and townhomes. A byproduct of this higher density is a reduced need for households to own multiple autos, which is reflected in MTC's auto ownership forecasts for the TRANSDEF alternative.

To become regional policy, these changes would need to be adopted by ABAG as part of a future socio-economic and land use Projection series and would need to be implemented by local jurisdictions through General Plan and zoning revisions. There are no regulatory mechanisms in place to require local jurisdictions to make such changes. TRANSDEF believes that MTC has a role in accomplishing these land use changes by withholding certain federal and state discretionary funds from local jurisdictions that do not make the necessary revisions to their local plans.

FUNDING ASSUMPTIONS

Committed Funds

Historically, MTC has included all fully funded projects in the financially constrained element of the RTP. This includes projects that are fully funded as a result of legislation or voter action, or are included in MTC's funding priorities for the next three years (i.e., included as part of the 2005 Transportation Improvement Program).

In contrast to MTC's assumptions, TRANSDEF considered the list of committed projects to only include projects currently under construction or projects that are under contract for construction by 2006. Thus, TRANSDEF's set of committed projects is significantly smaller than for the other alternatives. TRANSDEF uses the money assigned to these projects for other projects it has defined.

New Transportation 2030 Commitments

The financially constrained element of the Transportation 2030 plan includes funding for new projects with revenues expected to be available in the future (these projects were known as "Track 1" in previous regional transportation plans but are now referred to as "New Commitments" in this EIR).

TRANSDEF's set of new committed projects is significantly smaller than those included in the Financially Constrained alternative, which will provide the basis for the Transportation 2030 Plan's conformity analysis.

County Transportation Sales Tax Expenditure Plans

TRANSDEF also examined the proposed set of projects in various county transportation sales tax expenditure plans in Contra Costa, Marin, Sonoma, Solano, and San Mateo counties that will be voted on in November 2004. TRANSDEF did not consider these projects to be committed, if approved by the voters. To implement the alternative set of projects proposed by TRANSDEF, a new measure would need to be placed on the ballot to revise the approved set of projects at a future date.

Projects Evaluated

The TRANSDEF alternative includes (1) 170 projects out of a total of 242 projects MTC considers committed; (2) 217 projects out of a total of 344 projects that are not fully funded and rely on future transportation revenues (called "Track 1" projects in past RTPs); and (3) 32 projects out of a total of 92 proposed sales tax projects. In summary, TRANSDEF deleted a total of 261 projects from the Proposed Project. A total of 199 projects were excluded from the financially constrained element, and a total of 62 proposed sales tax projects were excluded from the vision element of the Transportation 2030 Plan. Many of the excluded projects are projects approved by the voters as part of a county transportation sales tax measure and Regional Measures 1 and 2, which raised tolls to $2 dollars and $3 dollars, respectively, on Bay bridges to fund bridge improvements and related congestion relief improvements within the bridge corridors. See Table D-1.

Projects added by TRANSDEF include:

Road Projects:

- Construct a connector from westbound I-580 and I-238 to southbound onto Route 238, Foothill Boulevard
- Construct an underpass of Mission by Jackson and Foothill at the Route 238, Route 185 and Route 92 intersections just south of downtown Hayward.
- Widen Route 92 bridge to four lanes eastbound over I-880 to handle the afternoon peak weave of cloverleaf traffic

Transit Projects:

- New Bus Rapid Transit (BRT) for Contra Costa
- New Diesel Multiple Unit (DMU) for the East Contra Costa County (Delta corridor) and Vallejo-Napa
- New San Francisco Muni C-Line BRT
- New Bus Rapid Transit for: Vacaville, Fairfield, Benicia-Vallejo, Santa Rosa-Sebastopol, Cotati-Rohnert Park, Petaluma, Novato, Central Marin, Pacifica-South San Francisco, San Mateo-Foster City, Belmont-Redwood City, Menlo Park-Palo Alto, Livermore, Pleasanton, San Ramon, Oakland Airport, and Cal State Hayward
- New High Speed Rail line using Altamont Pass corridor for entry into the Bay Area

Funding Summary

The budget for the financial constrained element of the proposed Transportation 2030 Plan (Proposed Project) is $113 billion. The proposed sales tax expenditure plans, which appear in the vision element, have a total value of $5.7 billion. TRANSDEF excluded 199 Committed and "Track 1" from the financially constrained and 62 proposed sales tax projects from the vision element. This resulted in a surplus of about $10.4 billion, which would be applied towards the

transit operating and capital costs associated with the new transit service proposed by TRANSDEF. MTC estimates the transit operating and capital costs to be about $4.2 billion.

Transit Transfer Policies

TRANSDEF sought to eliminate cost as a barrier to riders transferring between transit routes and between transit systems. Instead of charging passengers to transfer using the new universal fare card Translink), TRANSDEF assumes riders do not have to pay to transfer.

PRICING PROGRAMS

TRANSDEF proposes several new transportation pricing policies will be implemented by the appropriate agency with the requisite authority to encourage a shift in travel from single occupant vehicles to transit, ridesharing, or bike/walking:

- $2.00/day for parking at several high-demand BART stations (implemented by BART).
- Housing developments provide each resident with a monthly transit pass at a reduced rate similar to VTA's Eco Pass program. Residents pay for the eco pass as part of rent or homeowner association fees (implemented by cities as part of their development approval process).
- All employers offer a transit subsidy of $5 per day in lieu of free parking, typically known as "parking cash out". (implemented by cities through a local ordinance or other regulation). (Note: this was modeled by MTC as a daily cost for employees to park, since the transfer of income from employers to employees cannot be modeled in MTC's travel demand modeling system).

TRANSPORTATION PROJECTS

The TRANSDEF alternative includes a different mix of regional transportation projects and programs than the Proposed Project or other alternatives. Differences in the TRANSDEF alternative, relative to the Proposed Project, are outlined in the following subsections.

HIGHWAY PROJECT SELECTION METHODOLOGY

In general, the TRANSDEF alternative does not invest in major roadway capacity increasing projects (meaning projects with a cost over $5 million, unless they are already under contract for construction or are being paid for by developer mitigation funds). All safety projects included in the Proposed Project are funded. Ramp metering in the region was also assumed.

TRANSIT PROJECT SELECTION METHODOLOGY

A network of new "Rapid Bus" lines was defined for the region to serve higher density development in corridors along major arterials. Several new light rail services were added to connect various communities. Service on local bus routes is doubled on many lines, and improved passenger amenities, including real time arrival information, are made available for bus passengers throughout the region. These new lines will likely require new sources of operating

funds, which would not be available in under the financially constrained element of the Proposed Project. TRANSDEF assumes that certain funds which are currently available for construction of transit and highway projects, but not for transit operations, will in the future be available for operating new transit services proposed by TRANSDEF.

Rapid Bus

Rapid Bus service is intended to make transit use more attractive by upgrading bus service in heavily traveled arterial corridors. Transit Preferential Streets will speed buses by providing transit priority at traffic signals, queue jumps, optimized bus stops, improved pavement, and exclusive bus lanes where needed. Low floor buses and raised sidewalks may provide one-step or no-step entry and buses will have more doors make loading and unloading faster. Proof-of-payment will also speed up loading of passengers. The Rapid Bus lines would not have park and ride facilities, as they are designed to serve significant activity centers where people are already congregated. Because Rapid Bus is based on limited stop service, underlying local service in many communities would be retained and in some cases improved as well.

In Marin, Golden Gate service would be increased, including 15-minute headways along US 101 between Novato and San Francisco. Rapid Bus lines would run through the cities of Central Marin, and also in Novato. In Sonoma County, Rapid Bus lines would run in Petaluma, Cotati, and Rohnert Park, along with a trunk Rapid Bus service from East Santa Rosa to Sebastopol.

A new Rapid Bus line would connect Mare Island, Vallejo, Benicia, and the Capitol Corridor intercity trains. It would meet the Vallejo-Napa rail service at the relocated ferry terminal at the foot of Lemon Street in Vallejo. Rapid Bus service also would circulate from Capitol Corridor train stations in Fairfield and Vacaville along improved arterials, connecting new infill growth to city centers.

Central Contra Costa County cities would be served by a looping Rapid Bus system, connecting Walnut Creek, Concord, Pleasant Hill and Martinez. All BART stations would be served, along with a major new urban center assumed to be developed on and around the Sun Valley Mall. Smaller community centers are assumed to develop at existing strip malls and along underdeveloped arterials.

In the Tri-Valley area, three new Rapid Bus lines would serve Livermore, Pleasanton, Dublin, and San Ramon. Connections would be made to all BART stations and the new Altamont HSR stations on Isabel Avenue in Livermore and at Vasco Road. All major employment centers would be connected, including Bishop Ranch, Hacienda, and Lawrence Livermore National Labs.

Santa Clara County's existing bus system would be overlaid with a new Rapid Bus network serving the busiest lines. The Great Mall in Milpitas and Eastridge Mall in East San Jose would serve as bookends for a revitalized corridor of homes and businesses.

Like San Jose, San Francisco also would have a new Rapid Bus network overlaid upon its busiest lines. In many places, continuous 24-hour bus lanes would replace existing bus lanes. The Central Subway would be replaced with a new C-Line Rapid Bus, and would combine the three lines that

serve Chinatown and North Beach (30, 41, 45). The new C-Line would operate on exclusive lanes from Mission Bay and the Transbay area through SOMA, downtown, and Chinatown to North Beach. From North Beach, the line would loop over Russian Hill into Cow Hollow and back via the Marina and Fishermen's Wharf. Stockton Street in Chinatown.

In the East Bay, several AC Transit Rapid Bus lines would overlay several of the busiest local lines from Fremont north to Albany, including lines on Hesperian, MacArthur and International Boulevards. Headways would be reduced on a number of lines throughout AC Transit's two county service area. A new Rapid Bus line would link Hayward's BART station to California State University, Hayward, supporting development of a mixed-use corridor and boosting Cal State enrollment.

Rail

The TRANSDEF alternative would not fund any of the currently planned BART extensions to Warm Springs and San Jose/Santa Clara. Modern DMU (Diesel Multiple Unit) service using self propelled cars on conventional rail tracks were selected for certain corridors designated by TRANSDEF for significant growth.

Caltrain was electrified and frequency of service increased to BART levels throughout the day. Caltrain service between San Jose and the Transbay Terminal would include a mix of local trains running every 15 minutes and "Baby Bullets" express trains, running every 30 minutes. San Jose, Redwood City, Millbrae, and the Transbay Terminal in San Francisco also would serve proposed High Speed Rail (HSR) trains (funding for the initial segment would be voted on in a statewide election in 2006).

In the North Bay, the SMART train (which would also use DMU equipment) would link Sonoma and Marin Counties, running from a new ferry terminal at San Quentin to Cloverdale. SMART would replace all trunkline Golden Gate Transit service in Sonoma County.

The Route 29 rail corridor between Vallejo and North Napa would be improved with DMUs on the existing rail line. Trains would start at a relocated Vallejo ferry terminal and serve the communities between Vallejo and Napa. They would go to a terminal on the north side of Napa. The Vallejo-Napa DMUs would connect to the ferry to San Francisco, to deliver tourists to the Napa Valley, where private coaches would circulate between wineries, hotels, and DMU stops.

The Delta cities of Contra Costa County would be tied into the region with a new DMU rail system running between North Concord BART and Brentwood. Development in the eastern part of the county would be focused around this line.

Facilities for Pedestrians, Bicyclists and Persons with Disabilities

The TRANSDEF alternative funds projects that would provide accessible paths of travel for new transit lines and improve paths of travel to existing transit. Making fixed route transit service more accessible for persons with disabilities would limit cost increases associated with providing

complementary ADA paratransit service. Such public works improvements also would enhance the walkability of many neighborhood environs.

High Speed Rail

To move people long distances across the region, the TRANSDEF alternative relies on a few key projects and a redeployment of existing services. The TRANSDEF alternative assumes that a statewide High Speed Rail (HSR) system will be operational within the next 25 years and will enter the Bay Area using the I-580 Altamont Corridor between the San Joaquin Valley. It would replace the existing Altamont Commuter Express trains, tie into BART (via very short extensions) in west Livermore and Fremont, and connect Fremont and San Jose.

Ferries

The Water Transit Authority's proposed ferry routes, which are part of the Proposed Project, would not be included in this alternative, with the exception of new ferry service from San Quentin to the Ferry Building (this would operate on 30-minute headways). Other existing services would remain in place.

Table D-1: Transportation 2030 Plan Projects Excluded from TRANSDEF Smart Growth Alternative

1= Approved Sales Tax Project, 2= Regional Measure 1 Project, 3= Regional Measure 2 Project

Project ID	*Project/Program*	*1*	*2*	*3*
Committed Projects (Financially Constrained Element)				
Bay Area Region				
22001	SMART Commuter Rail project (environmental, preliminary engineering, and right-of-way) (Resolution 3434)			✓
22003	Capitol Corridor: Phase 2 enhancements –(Resolution 3434)			✓
22006	Downtown Ferry Terminal improvements and spare ferry vessels (Resolution 3434)			✓
22009	Capitol Corridor intercity rail service (track capacity/frequency improvements from Oakland to San Jose designed to allow 16 daily round trips between Oakland and Sacramento/San Jose) (Resolution 3434)			
22241	Regional Measure 2 Studies (includes regional rail study, transit connectivity study, Water Transit Authority (WTA) environmental studies, I-680/Pleasant Hill BART connector study, and Caldecott Tunnel transit ridership study)			✓
22242	Real-Time Transit Grant Program			✓
22243	Regional Measure 2 Express Bus North Improvements (includes park and ride lots and rolling stock)			✓
22244	City Carshare			✓
22245	Safe Routes to Transit			✓
94514	I-880/Route 92 interchange improvements	✓	✓	
Alameda				
21100	I-580/Vasco Road interchange improvements			
21114	Washington/Paseo Padre Parkway Grade Separation	✓		✓
21125	Route 84 westbound HOV lane extension from Newark Boulevard to I-880.			✓
21126	Route 84 westbound HOV on-ramp from Newark Boulevard			✓
21417	Dumbarton Express park-and-ride: 90 spaces on Decoto Road near I-880 by the Dumbarton Bridge (includes right-of-way acquisition)			
21472	I-680/Bernal Avenue interchange improvements			
21473	Construct a 4-lane major arterial connecting Dublin Boulevard and North Canyons Parkway			
21475	I-580/First Street interchange improvements			
21477	I-580/Greenville Road interchange improvements			
21489	I-580/San Ramon Road/Foothill Road interchange improvements			
21492	Extend Scarlett Drive from Dublin Boulevard to Dougherty Road	✓		
21896	Route 84 vertical and horizontal alignment improvements in Fremont (from 3 miles east of I-680 to 5.1 miles east of I-680)			
22240	Regional Measure 2 Express Bus South Improvements (includes park-and-ride lots, HOV access improvements, and rolling stock)			✓
22469	East Dublin BART Station transit village			
22785	Construct I-580 eastbound auxiliary lane from First Street to Vasco Road			
22796	Construct 4-lane arterial connection between future eastern end of Dublin Boulevard in Dublin to North Canyons Parkway in Livermore			
22991	Widen I-680 for southbound High Occupancy Vehicle/High Occupancy Toll (HOV/HOT) lane from Route 237 to Route 84 (includes ramp metering and auxiliary lanes)	✓		
94024	Auto/truck separation lane at I-580/I-205 interchange			

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Project ID	*Project/Program*	*1*	*2*	*3*
94030	Reconstruct I-880/Route 262 interchange and widen I-880 from Route 262 (Mission Boulevard) to the Santa Clara County line from 8 lanes to 10 lanes (8 mixed-flow and 2 HOV lanes)	✓		
94506	Widen Route 84 to 6-lane parkway from I-880 to Paseo Padre and 4-lane parkway from Paseo Padre to Mission Boulevard along the Historic Parkway alignment	✓		
Contra Costa				
21213	Pittsburg/Bay Point BART Station parking & lighting improvements (400 new spaces)			
21216	Extend Laurel Road from Route 4 Bypass to Empire Avenue			
22353	I-680 southbound HOV gap closure between North Main Street and Livorna			✓
22601	Route 4 Bypass, Segment 3: construct a 2-lane facility from Balfour Road to Walnut Boulevard, and upgrade Marsh Creek Road			
94047	Extend the northern limits of the I-80 westbound HOV lane from north of Cummings Skyway to Route 4			
94051	I-680 auxiliary lane from Diablo Road to Sycamore Valley Road (Segment 1) in Danville and from Crow Canyon Road to Bollinger Canyon Road (Segment 3) in San Ramon	✓		
98115	Widen Ygnacio Valley/Kirker Pass Roads from 4 lanes to 6 lanes from Michigan Boulevard to Cowell Road			
98132	Widen and extend Bollinger Canyon Road to 6 lanes from Alcosta Boulevard to Dougherty Road			
98134	Widen Dougherty Road to 6 lanes from Red Willow to Contra Costa County line			
98135	Construct Windermere Parkway: 4 lanes from Bollinger Canyon Road extension to East Branch			
98136	Construct East Branch as 4 lanes from Bollinger Canyon Road extension to Camino Tassajara			
98142	Widen Route 4 from 4 lanes to 8 lanes with HOV lanes from Loveridge Road to Somersville Road	✓		
98211	I-80 eastbound HOV lane extension from Route 4 to the Crockett interchange just south of the Carquinez Bridge			✓
98221	Route 4 Bypass, Segment 2, Phase2: widen to 4 lanes from Lone Tree Way to Balfour Road			
Marin				
21325	US 101/Greenbrae interchange improvements			✓
San Francisco				
22982	Transit enhancements program	✓		
San Mateo				
21605	US 101/Oyster Point Boulevard interchange improvements (Phases 2 and 3)	✓		
21606	US 101/ Willow Road interchange reconstruction	✓		
21608	US 101 northbound and southbound auxiliary lanes from Marsh Road to Santa Clara County line	✓		
98176	US 101 auxiliary lanes from 3rd Avenue to Millbrae and US 101/Peninsula Avenue interchange reconstruction	✓		

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Project ID	*Project/Program*	*1*	*2*	*3*
Santa Clara				
21558	Foothill Expressway traffic and signal operational improvements from Edith Avenue to El Monte Avenue, and at Grant Avenue/St. Joseph Avenue intersection			
21727	Route 87/US 101 ramp connection to Trimble Road interchange			
21785	US 101/Blossom Hill Road interchange improvements			
21786	US 101/Hellyer Avenue interchange modifications			
21832	Central Expressway level-of-service improvements from Bowers Avenue to De la Cruz Boulevard	✓		
21837	Capitol Expressway level-of-service improvements at McLaughlin Avenue	✓		
21921	BART extension into Santa Clara County (Resolution 3434)	✓		
21922	San Jose International Airport connections to Guadalupe Light Rail Transit (LRT)	✓		
22014	Downtown East Valley: Santa Clara/Alum Rock and Capitol Expressway to Nieman: Preliminary Engineering and Right of way purchase (Resolution 3434)	✓		
22822	Expressway traffic information outlets			
22902	Future rail corridors to be determined by Major Investment Studies (MIS)	✓		
Solano				
21341	Project development for new Fairfield/Vacaville multi-modal rail station for Capitol Corridor intercity rail service in Solano County (Phase 1)			✓
22629	New Vallejo Ferry Terminal intermodal facility			✓
22631	Route 12 westbound (Red Top Road) truck lane			
22632	American Canyon Road overpass at I-80			
22899	Widen Route 12 between Suisun City and Rio Vista from 2 lanes to 4 lanes (includes study of new Rio Vista Bridge)			
22985	Benicia Intermodal Transportation Station			✓
22986	Widen and improve Broadway between Route 37 and Mini Drive from 2 lanes to 4 lanes			
Sonoma				
21070	Realign Route 116 (Stage Gulch Road) along Champlin Creek and widen remaining segments to accommodate pedestrians and bicyclists			
22490	Convert bridges of Sonoma County from one-lane to two-lane bridges			
22655	Widen US 101 for HOV lanes (one in each direction) from Rohnert Park Expressway to Santa Rosa Avenue (includes interchange improvements and ramp metering)			
94165	US 101 northbound and southbound HOV lanes from Route 12 to Steele Lane in Santa Rosa			
New Commitment (previously called Track 1) (Financially Constrained Element)				
Bay Area Region				
22247	Regional Bicycle and Pedestrian Program			
Alameda				
21105	I-580/Isabel interchange improvements (Phases 1 and 2)	✓		
21123	Union City Intermodal Station infrastructure improvements (Phase 2)	✓		
21131	BART-Oakland International Airport connector –(Resolution 3434)	✓		✓

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Project ID	*Project/Program*	*1*	*2*	*3*
21132	BART extension to Warm Springs (Resolution 3434)	✓		✓
21144	I-80/Gilman Avenue interchange improvements (includes roundabouts)			
21149	Upgrade express bus services in Dumbarton corridor			✓
22013	I-580 corridor improvements (includes widen I-580 in both directions for HOV and auxiliary lanes from Tassajara Road to Greenville Road, construct HOV direct connector from westbound I-580 to southbound I-680, construct eastbound truck climbing lane from Flynn Road to Greenville Road (Altamont Summit), and acquire express buses) (Resolution 3434)	✓		
22042	Widen I-680 for northbound HOV lane from Route 237 to Stoneride Drive (includes ramp metering and auxiliary lanes)	✓		
22062	Construct infrastructure for future Irvington BART Station			
22063	Route 238 corridor improvements between Foothill Boulevard/Mattox Road to Mission Boulevard/Industrial Parkway (includes adding a lane throughout the corridor and grade separations at the Foothill/Mission/Jackson interchange)	✓		
22084	Oakland International Airport North Field access road			
22100	Replace I-880/Davis Street overcrossing			
22101	Replace I-880/Marina Boulevard overcrossing			
22509	Alameda/Oakland to San Francisco ferry service and Harbor Bay to San Francisco ferry service	✓		✓
22511	Berkeley/Albany to San Francisco ferry service –(Resolution 3434)			✓
22657	I-205/I-580 Altamont Pass westbound truck lane			
22760	Outer Harbor intermodal terminal (formerly known as Joint Intermodal Terminal (JIT) expansion)			
22761	I-880 from Hegenberger Road to I-980 operation improvements (includes freight movement to Port of Oakland)			
22763	Reconstruct southbound I-880 on- and off- ramps in conjunction with I-880/5th Street seismic retrofit			
22764	Construct auxiliary lane on I-880 between Hegenberger Road and 66th Avenue and shift merge point of the westbound Hegenberger Road to I-880 on-ramp			
22766	Fruitvale Avenue Rail Bridge seismic retrofit			
22776	Widen Route 84 from 2 lanes to 4 lanes from north of Pigeon Pass to Vineyard Avenue and 2 lanes to 4 or 6 lanes from Vineyard Avenue to Jack London Boulevard	✓		
22779	Route 262/Warren Avenue/I-880 interchange improvements (including Union Pacific Railroad grade separation) (Phase 2)			
22990	Widen Route 262 from I-880 to Warm Springs Boulevard (including reconstructing Route 262/I-880 and Route 262/Kato Road interchanges) and reconstruct Union Pacific Railroad underpasses	✓		
98139	ACE station/track improvements in Alameda County (including parking improvements at Vasco Road and downtown Livermore stations)	✓		
98208	Soundwalls program			

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Project ID	*Project/Program*	*1*	*2*	*3*
Contra Costa				
21205	I-680/Route 4 interchange freeway-to-freeway direct connectors: eastbound Route 4 to southbound I-680, and northbound I- 680 to westbound Route 4 (Phases 1 and 2)	✓		
21206	Caldecott Tunnel fourth bore			✓
21207	Martinez Intermodal Terminal Facility (Phase 3 initial segment): 200 interim parking spaces (includes site acquisition, demolition and construction)			
22602	Construct I-680 auxiliary lanes in both directions from Sycamore Valley Road to Crow Canyon Road	✓		
22603	Richmond intermodal transfer station (680 space parking garage)			
98130	Widen Alhambra Avenue from Route 4 to McAlvey Drive from 2 lanes to 4 lanes	✓		
98194	Extend Commerce Avenue between Pine Creek and Waterworld Parkway to connect Willow Pass Road with Route 242/Concord Avenue interchange	✓		
98196	Route 24 eastbound auxiliary lanes from Gateway Boulevard to Brookwood Road/Moraga Way	✓		
98222	Route 4 Bypass, Segment 1: Route 160 freeway-to-freeway connectors to and from the north			
98999	Widen Route 4 eastbound from 4 lanes to 8 lanes from Somersville Road to Route 160	✓		
21306	US 101/Lucas Valley Road interchange improvements (initial phase)	✓		
Marin				
98154	Widen US 101 from Route 37 to the Sonoma County line from 4 lanes to 6 lanes (including 2 HOV lanes) and convert some highway sections to freeway standards			
98179	US 101/Tiburon Boulevard interchange improvements			
Napa				
94074	Widen Route 12 (Jamieson Canyon) from I-80 in Solano County to Route 29 in Napa County from 2 lanes to 4 lanes (Napa County portion of project)			
94075	Route 12/Route 29/Airport interchange construction			
San Francisco				
21510	Third Street light-rail transit extension to Chinatown, Phase 2 (Central Subway)	✓		
22416	Traffic calming	✓		
22984	Wheelchair curb ramps	✓		
San Mateo				
21603	US 101/Woodside Road interchange improvements	✓		
21613	Route 92 improvements from San Mateo Bridge to I-280, includes uphill passing lane from US 101 to I-280 (Phase 1)	✓		
21615	I-280/Route 1 interchange safety improvements (initial phase)	✓		
21618	Dumbarton rail corridor (Phase 1) –(Resolution 3434)	✓		✓
22125	Ferry service from South San Francisco to San Francisco –(Resolution 3434)			✓
22223	Study of US 101/Peninsula Avenue southbound ramps	✓		
22230	Study of I-280 auxiliary lanes from I-380 to Hickey Boulevard	✓		

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Project ID	*Project/Program*	*1*	*2*	*3*
22282	Widen US 101 southbound by adding 5th lane from westbound Route 92 loop on-ramp to Ralston Avenue off-ramp			
22424	BART Advanced Automatic Train Control (AATC) Phase V - Daly City to Millbrae/SFO			
22756	US 101/Candlestick interchange reconstruction (Phase 1)	✓		
Santa Clara				
20002	Route 85 noise mitigation between I-280 and Route 87	✓		
21713	Construct auxiliary lane on eastbound Route 237 from North First Street to Zanker Road			
21714	Widen US 101 between Monterey Highway and Route 25 (includes an extension to Santa Teresa Boulevard) and construct a full interchange at US 101/Route 25/Santa Teresa Boulevard			
21716	Widen Route 237 from 4 lanes to 6 lanes for HOV lanes between Route 85 and east of Mathilda Avenue			
21717	Widen Route 25 from US 101 to Route 156 from 2 lanes to 6 lanes (includes new interchange at Route 156)			
21718	Route 85 northbound and southbound auxiliary lanes between Homestead Avenue and Fremont Avenue			
21719	I-880/I-280/Stevens Creek Boulevard interchange improvements (Phase I)			
21720	US 101/Tennant Avenue interchange improvements			
21722	US 101 southbound Trimble Road/De La Cruz Boulevard/Central Expressway interchange improvements			
21723	US 101/Tully Road interchange modifications			
21724	Widen US 101 for northbound and southbound auxiliary lane from Trimble Road to Montague Expressway			
21749	Extend Butterfield Boulevard from Tennant Avenue to Watsonville Road			
21836	San Tomas Expressway at Hamilton Avenue level-of-service improvements	✓		
22010	Construct I-280 northbound second exit lane to Foothill Expressway			
22012	Route 237 eastbound auxiliary lane improvement from North First Street to Zanker Road			
22015	I-680/I-880 cross connector (environmental and conceptual engineering)	✓		
22018	US 101/Mathilda Avenue interchange improvements			
22118	Extend Hill Road to Peet Avenue			
22134	Widen US 101 southbound from Story Road to Yerba Buena Road			
22140	Widen US 101 between Cochrane Road and Monterey Highway from 6 lanes to 8 lanes			
22142	US 101/Capitol Expressway interchange improvements (includes new northbound on-ramp from Yerba Buena Road)			
22145	Widen westbound Route 237 on-ramp from Route 237 to northbound US 101 to 2 lanes and add auxiliary lane on northbound US 101 from Route 237 on-ramp to Ellis Street interchange			
22153	Extend Mary Avenue north across Route 237			
22156	Route 85 northbound to SR 237 eastbound connector ramp improvements			

Table D-1: Transportation 2030 Plan Projects Excluded from TRANSDEF Smart Growth Alternative

1= Approved Sales Tax Project, 2= Regional Measure 1 Project, 3= Regional Measure 2 Project

Project ID	*Project/Program*	*1*	*2*	*3*
22162	Route 237 westbound to Route 85 southbound connector ramp improvements			
22169	Widen Coleman Avenue from Hedding Street and a future Autumn Street extension from 4 lanes to 6 lanes			
22170	Construct I-880 overcrossing on Charcot Avenue between Paragon Drive and Old Oakland Road as a reliever route to Montague Expressway and Brokaw Road			
22171	Extend Autumn Street from Julian Street to Coleman Avenue to connect I-880 to west part of downtown San Jose			
22175	Widen Almaden Expressway between Coleman Road and Blossom Hill Road to 8 lanes			
22176	Widen Berryessa Road from I-680 to Commercial Street from 4 lanes to 6 lanes			
22177	Widen Branham Lane from Vista Park Drive to Snell Avenue from 4 lanes to 6 lanes			
22178	Replace 4-lane structure with 6-lane bridge on Calaveras Boulevard over Union Pacific Railroad from Abel Street to Milpitas Boulevard			
22179	Widen Central Expressway between Lawrence Expressway and San Tomas Expressway from 4 lanes to 6 lanes			
22180	Widen Central Expressway between Lawrence Expressway and Mary Avenue to provide auxiliary acceleration and/or deceleration lanes			
22181	Construct 4-lane bridge over Guadalupe River between Almaden Expressway and Fell Avenue to connection sections of Chynoweth Avenue			
22182	Gilman Road/Arroyo Circle traffic signal and intersection improvements			
22186	Widen San Tomas Expressway between Route 82 and Williams Road to 8 lanes			
22422	Widen Senter Road between Tully Road and Capitol Expressway to 6 lanes			
22806	Capitol Avenue/Great Mall Parkway grade separation over Montague Expressway			
22816	Oregon-Page Mill Expressway corridor operational improvements			
22817	Widen Campbell Avenue to accommodate pedestrian and bicycle facilities			
22830	Widen First Street/Route 152 to add one eastbound lane from Church Street to Monterey Street			
22834	Widen Route 237 for eastbound auxiliary lane from Mathilda Avenue to Fair Oaks Avenue			
22838	Study of Lawrence Expressway/Calvert/I-280 interchange improvements (Caltrans Project Study Report)			
22839	Convert HOV lane to mixed-flow lane on Central Expressway between San Tomas and De La Cruz (including removing HOV queue jump lanes at Bowers)			
22840	Study to reconfigure Route 85/Almaden Expressway interchange (Caltrans Project Study Report/Project Development Study)			
22843	Widen Lawrence Expressway between Moorpark/Bollinger and south of Calvert from 6 lanes to 8 lanes			
22845	Construct US 101 southbound auxiliary lane from Ellis Street to eastbound Route 237			
22854	I-280/Oregon-Page Mill interchange modification			
22857	Widen US 101 for a southbound auxiliary lane from I-880 to McKee Road/Julian Street			
22872	Widen Montague Expressway for HOV lanes between I-880 and I-680 (6 mixed-flow, 2 HOV lanes)			

Table D-1: Transportation 2030 Plan Projects Excluded from TRANSDEF Smart Growth Alternative

1= Approved Sales Tax Project, 2= Regional Measure 1 Project, 3= Regional Measure 2 Project

Project ID	*Project/Program*	*1*	*2*	*3*
22878	Realign Wildwood Avenue to connect with Lawrence Expressway (includes new traffic signal at Lawrence Expressway/Wildwood Avenue intersection)			
22881	Construct auxiliary lane on southbound Lawrence Expressway between westbound Route 237 and southbound Lawrence Expressway			
22883	Modify medians on Lawrence Expressway from De Sota Avenue and St. Lawrence Drive/Lawrence Station Road for limited access			
22892	Widen US 101 southbound auxiliary lane from Great America Parkway to Lawrence Expressway			
22893	Widen US 101 for a northbound auxiliary lane from McKee/Julian Street to I-880			
22894	US 101 Mabury Road/Taylor Street new interchange (environmental and preliminary engineering)			
22895	San Tomas Expressway/Route 17 interchange operational improvements			
22897	Widen I-680 northbound for an HOV lane from Route 84 to Calavaras Boulevard			
22987	Java Drive bikeway between Mathilda Avenue and Crossman Avenue			
98103	Construct auxiliary lane on northbound Route 17 from Camden Avenue to Hamilton Avenue (including improvements to northbound on-ramp from Camden Avenue)	✓		
Solano				
21807	Widen I-80 from I-680 to Air Base Parkway from 8 lanes to 10 lanes for HOV lanes (includes a braided ramp from I-680 to Suisun Valley Road and improvements to Red Top Road)			✓
22700	Construct parallel corridor north of I-80 from Red Top Road to Abernathy Road (the western section extends from the railroad crossing on Red Top Road to Business Center Drive)			✓
22701	I-80/I-680/Route 12 interchange improvements (includes truck scales and auxiliary lanes) (as identified in I-80/I-680/I-780 Corridor Study)			
22703	I-80/I-680/I-780 corridor mid-term capacity and operation improvements except transit hubs and park and ride lots (as identified in I-80/I-680/I-780 Corridor Study)			
22708	Route 12 from I-80 to Sacramento Bridge long-term capacity and operational improvements (as identified in Route 12 Major Investment Study(MIS))			
22898	Widen I-80 from west of Meridian Road to west of Kidwell Road from 6 lanes to 8 lanes			
94151	Construct 4-lane Jepson Parkway from Route 12 to Leisure Town Road			
94152	Widen Route 12 (Jameson Canyon) from I-80 in Solano County to Route 29 in Napa County from 2 lanes to 4 lanes (Solano County portion of project)			
Sonoma				
21902	Widen US 101 for HOV lanes from Old Redwood Highway to Rohnert Park Expressway			
98147	Widen US 101 from Route 116 east to the Marin/Sonoma County line from 4 lanes to 6 lanes (including 2 HOV lanes), upgrade Petaluma Bridge, and convert some highway sections to freeway standards			
98183	Widen US 101 for HOV lanes between Steele Lane and Windsor River Road			

Table D-1: Transportation 2030 Plan Projects Excluded from TRANSDEF Smart Growth Alternative

1= Approved Sales Tax Project, 2= Regional Measure 1 Project, 3= Regional Measure 2 Project

Project ID	*Project/Program*	*1*	*2*	*3*
Proposed Sales Tax Projects (Vision Element)				
Contra Costa				
21223	I-680 transit corridor improvements (including express bus service enhancements and improved connections to BART)			
22122	Ferry service in western Contra Costa County (Richmond and Hercules or Rodeo) - Resolution 3434 project			✓
22350	I-680/Route 4 interchange improvements (Phases 3 through 5) and HOV flyover ramps		✓	
22351	I-680 northbound HOV gap closure between North Main Street and Route 242			
22352	I-680/Norris Canyon Road HOV direct ramps in San Ramon			
22354	I-680/Marina Vista interchange improvements			
22355	I-80/Central Avenue interchange modifications			
22360	I-80/San Pablo Dam Road interchange reconstruction			
22365	Martinez Ferry landside improvements			
22382	Richmond Parkway/San Pablo Avenue grade separated interchange		✓	
22383	Upgrade Richmond Parkway geometry to principal arterial standards		✓	
22388	Construct Route 242/Clayton Road northbound on-ramp			
22389	Construct Route 242/Clayton Road southbound off-ramp			
22390	Reconstruct Route 4/Willow Pass Road ramps in Concord			
22604	Construct safety and operational improvements (including potential realignment) on Vasco Road from Brentwood to Alameda County line			
22605	Route 4 Bypass, Segments 2 & 3: widen and upgrade to full freeway (widen segment 2 to 6 lanes from Lone Tree to Balfour, and widen segment 3 to 4 lanes from Balfour to Walnut)			
22607	Major streets widening, extensions and interchange improvements (East County)			
22609	Major streets widening, extensions and interchange improvements (Central County)			
22610	Major streets widening, extensions and interchange improvements (West County)			
22612	I-680/Sycamore Valley Road direct HOV ramps in Danville			
22613	Major streets widening, extensions and interchange improvements (Southwest County)			
22981	Widen Route 4 as continuous 4-lane arterial from Marsh Creek Road to San Joaquin County line			
San Mateo				
21604	US 101 auxiliary lanes from Sierra Point to San Francisco County line	✓		
21609	I-280/I-380 local access improvements from Sneath Lane and San Bruno Avenue to I-380	✓		
21610	US 101 auxiliary lanes from San Bruno Avenue to Grand Avenue	✓		
21892	Widen Route 84 from 4 lanes to 6 lanes from El Camino Real to Broadway	✓		
21893	Route 92 between Half Moon Bay city limits and Pilarcitos Creek alignment and shoulder improvements			
22120	Ferry service from Redwood City to San Francisco to Alameda (Resolution 3434)			✓
22228	Ext Lagoon Way to connect to US 101, Bayshore Blvd, Guadalupe Canyon Pkwy	✓		
22229	US 101/Sierra Point Parkway interchange replacement	✓		

Table D-1: Transportation 2030 Plan Projects Excluded from TRANSDEF Smart Growth Alternative

1= Approved Sales Tax Project, 2= Regional Measure 1 Project, 3= Regional Measure 2 Project

Project ID	*Project/Program*	*1*	*2*	*3*
22231	Widen north side of John Daly Boulevard/I-280 overcrossing for additional westbound traffic lane and dedicated right-turn lane for southbound I-280 off-ramp	✓		
22271	Widen Skyline Boulevard (Route 35) to 4-lane roadway from I-280 to Sneath Lane			
22273	US 101/Candlestick interchange reconstruction (Phase 2)	✓		
22279	US 101/Produce Avenue interchange project			
22615	Dumbarton Rail Corridor and station improvements			
22622	Manor Drive/Route 1 overcrossing widening and improvement project			
22719	Dumbarton rail corridor (Phase 2)	✓		
22723	Improvement of Dumbarton Bridge access to US 101 (Phase 2)			
22725	I-280/Route 1 interchange improvements	✓		
22726	South San Francisco to Alameda ferry service (Resolution 3434)			✓
22727	US 101/Peninsula Avenue southbound ramps	✓		
22729	I-280 auxiliary lanes from I-380 to Hickey Boulevard	✓		
22739	US 101 operational improvements near Route 92			
22751	Route 1 operational and safety improvements in Half Moon Bay area	✓		
94644	Route 92 westbound slow vehicle lane between Route 35 and I-280			
Solano				
21824	Route 12 from I-80 to Sacramento Bridge capacity and operational improvements as identified in Route 12 Major Investment Study			
22702	I-80/I-680/Route 12 interchange improvements: truck scales and auxiliary lanes (Phases 3 and 4)			
22710	Non-capacity-increasing safety projects to improve congested intersections, local arterials and highways			
22712	Express bus capital and operating			
22717	I-80/I-680/I-780 corridor improvements (midterm projects except transit hubs and park-and-ride lots)			
Sonoma				
22190	Hwy 116/Hwy 121 intersection improvements and Arnold Drive improvements			
22191	US 101/Airport Boulevard interchange improvements			
22192	Widen Airport Boulevard from 2 lanes to 4 lanes (also includes a center turn lane)			
22193	Construct Forestville bypass on Route 116			
22195	Old Redwood Highway/US 101 interchange improvements			
22197	Penngrove local road improvements including Railroad Avenue interchange			
22203	River Road channelization and signals from Fulton Road to the town of Guerneville			
22204	Widen Fulton Road from Guerneville Road to US 101 from 2 lanes to 4 lanes			
22205	US 101/Hearn Avenue interchange improvements; including widening overcrossing and ramps			
22206	Construct Route 12/Fulton Road interchange			
22207	Extend Farmers Lane as a 3-lane or 4-lane arterial from Bellevue Avenue to Route 12			
22443	Design, project development, and financing costs for widening US 101			

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Appendix D.2: Comparison of ABAG and TRANSDEF Projections, 2000 – 2030

As described in Appendix D.1, the TRANSDEF alternative uses different future land use distribution projections as the basis for analysis. The TRANSDEF team provided MTC zone-level data for four specific variables: employed residents, total employment, residential acres and commercial/industrial acres. Tables on the following pages summarize 2000-2030 growth in each superdistrict for all of the key variables used for transportation modeling and impact analysis. These tables (Table D-2 through D-15) include comparative information on: total population, household population, total households, income, employed residents, employment, residential, commercial and industrial land use acreage, and household vehicles. The maps presented after the tables show zone-level differences in the 2030 projections for the TRANSDEF Smart Growth land use assumptions compared to ABAG *Projections 2003*.

To develop this data base, MTC used a SAS script to merge the TRANSDEF database with the ABAG *Projections 2003* data to create a master zonal data file for the TRANSDEF alternative. In terms of methodology, the ratio of the TRANSDEF employed residents to ABAG's *Projections 2003*, year 2030 employed residents was used to adjust: total households, household population, and households by income quartile. The ABAG projected group quarters population for 2030 was added to the TRANDEF-derived household population to obtain total population.

Certain zone-level variables were not adjusted for the TRANSDEF data, including: average household size; average workers per household; group quarters population; share of population by age cohort; share of households by income level; group mean household income; overall mean household income; share of employment by employment sector; and total acres.

The persons per household and workers per household were inspected at the zone-level, and are identical at the zone-level, comparing ABAG *Projections 2003* and the TRANSDEF-2030.

The proportion of households that are single-family versus multi-family is an important variable in the MTC vehicle ownership model. Zones with higher shares of multi-family dwelling units tend to have lower vehicle ownership levels. Zones with high shares of single-family dwelling units have higher vehicle ownership levels.

The MTC vehicle ownership model (WHHAO) also predicts the distribution of households by workers in the household. Inputs to this model are the number of households by the four income quartiles. Outputs from this model are the number of households by income quartile by workers in household (0, 1, 2+) and by vehicles available in the household (0, 1, 2+). Other input variables to the WHHAO model include group mean household income, average household size, share of population 62-or-older (to predict retired households) and gross population density. Gross population density is a surrogate variable for residential parking density, residential parking costs, land use mixing, and the general effects of urban culture on reducing or increasing auto ownership. Another key variable is the ratio of transit-to-highway accessibility, which is important in using the influence of transit service levels in moderating the growth in auto ownership.

ABAG does not forecast the split of households that are single-family versus multi-family. This has always been a task for MTC staff. Previous models used a very simple model that used the historic census split of single-family versus multi-family and applied this historic split to all future values.

MTC has since developed a model that estimates the proportion of households that are multi-family based on the changes in net residential density. TRANSDEF members initially suggested an alternate methodology that assumes that all new households, formed after year 2000, are multi-family dwelling unit households. After analysis of the implications of this assumption, TRANSDEF agreed that it would be more appropriate to use an adjusted version of the MTC SFDU/MFDU model to make the housing type determination. Accordingly, MTC applied the adjusted SFDU/MFDU model to the TRANSDEF data. The results show 110 thousand fewer single family dwelling units and 150 thousand more multi-family dwelling units compared to the Projections 2003-based estimates. Details on where these changes occurred in each superdistrict are shown in Tables D-10 and D-11.

Table D-2: Compare Total Population by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

		ABAG Projections 2003			*TRANSDEF*		*Percent*
	Superdistrict	*2000*	*2005*	*2030*	*2030*	*Difference*	*Difference*
1	Downtown San Francisco	125,742	130,866	162,818	193,199	30,381	18.7%
2	Richmond District	206,546	211,530	223,553	229,578	6,025	2.7%
3	Mission District	312,465	321,701	407,883	459,000	51,117	12.5%
4	Sunset District	131,980	134,485	140,813	147,989	7,176	5.1%
5	Daly City/San Bruno	287,439	296,220	337,173	343,525	6,352	1.9%
6	San Mateo/Burlingame	201,522	211,296	238,137	241,658	3,521	1.5%
7	Redwood City/Menlo Park	218,202	226,587	270,633	280,901	10,268	3.8%
8	Palo Alto/Los Altos	168,940	174,214	201,295	200,590	-705	-0.4%
9	Sunnyvale/Mountain View	225,943	239,451	325,072	332,791	7,719	2.4%
10	Saratoga/Cupertino	309,254	322,498	352,385	351,632	-753	-0.2%
11	Central San Jose	284,443	312,626	479,534	509,963	30,429	6.3%
12	Milpitas/East San Jose	381,056	405,088	515,727	501,288	-14,439	-2.8%
13	South San Jose/Almaden	215,121	223,694	248,325	240,629	-7,696	-3.1%
14	Gilroy/Morgan Hill	97,828	110,727	151,825	120,294	-31,531	-20.8%
15	Livermore/Pleasanton	171,652	198,163	288,409	250,037	-38,372	-13.3%
16	Fremont/Union City	311,764	332,413	404,510	371,995	-32,515	-8.0%
17	Hayward/San Leandro	351,568	370,034	422,329	399,274	-23,055	-5.5%
18	Oakland/Alameda	454,351	473,598	588,074	607,236	19,162	3.3%
19	Berkeley/Albany	154,406	160,184	184,952	168,728	-16,224	-8.8%
20	Richmond/El Cerrito	242,439	252,984	298,804	329,184	30,380	10.2%
21	Concord/Martinez	221,068	232,890	282,716	265,850	-16,866	-6.0%
22	Walnut Creek/Lamorinda	139,416	144,162	164,363	214,113	49,750	30.3%
23	Danville/San Ramon	114,919	125,878	165,399	140,106	-25,293	-15.3%
24	Antioch/Pittsburg	230,974	257,276	346,004	275,257	-70,747	-20.4%
25	Vallejo/Benicia	146,849	157,980	194,181	235,643	41,462	21.4%
26	Fairfield/Vacaville	247,693	282,215	383,106	311,371	-71,735	-18.7%
27	Napa	87,085	93,895	112,426	128,360	15,934	14.2%
28	St. Helena/Calistoga	37,194	38,902	41,077	47,686	6,609	16.1%
29	Petaluma/Sonoma	160,818	174,749	190,919	203,668	12,749	6.7%
30	Santa Rosa/Sebastopol	219,409	235,269	275,304	299,163	23,859	8.7%
31	Healdsburg/Cloverdale	78,387	87,791	99,483	88,191	-11,292	-11.4%
32	Novato	54,506	56,816	68,668	69,969	1,301	1.9%
33	San Rafael	103,658	106,622	114,709	122,936	8,227	7.2%
34	Mill Valley/Sausalito	89,125	91,100	99,711	98,513	-1,198	-1.2%
	Bay Area	**6,783,762**	**7,193,904**	**8,780,317**	**8,780,317**	**0**	**0.0%**
	San Francisco	776,733	798,582	935,067	1,029,766	94,699	10.1%
	San Mateo	707,163	734,103	845,943	866,084	20,141	2.4%
	Santa Clara	1,682,585	1,788,298	2,274,163	2,257,187	-16,976	-0.7%
	Alameda	1,443,741	1,534,392	1,888,274	1,797,270	-91,004	-4.8%
	Contra Costa	948,816	1,013,190	1,257,286	1,224,510	-32,776	-2.6%
	Solano	394,542	440,195	577,287	547,014	-30,273	-5.2%
	Napa	124,279	132,797	153,503	176,046	22,543	14.7%
	Sonoma	458,614	497,809	565,706	591,022	25,316	4.5%
	Marin	247,289	254,538	283,088	291,418	8,330	2.9%

Table D-3: Compare Household Population by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

		ABAG Projections 2003			*TRANSDEF*		*Percent*
	Superdistrict	*2000*	*2005*	*2030*	*2030*	*Difference*	*Difference*
1	Downtown San Francisco	118,588	123,297	155,110	185,491	30,381	19.6%
2	Richmond District	201,401	206,089	218,011	224,036	6,025	2.8%
3	Mission District	307,120	316,049	402,141	453,258	51,117	12.7%
4	Sunset District	129,868	132,252	138,538	145,714	7,176	5.2%
5	Daly City/San Bruno	284,856	293,503	334,234	340,586	6,352	1.9%
6	San Mateo/Burlingame	198,170	207,768	234,105	237,626	3,521	1.5%
7	Redwood City/Menlo Park	213,687	221,837	265,483	275,751	10,268	3.9%
8	Palo Alto/Los Altos	160,974	165,930	192,912	192,207	-705	-0.4%
9	Sunnyvale/Mountain View	223,565	236,982	322,560	330,279	7,719	2.4%
10	Saratoga/Cupertino	306,217	319,338	349,200	348,447	-753	-0.2%
11	Central San Jose	275,255	303,071	469,785	500,214	30,429	6.5%
12	Milpitas/East San Jose	376,119	399,959	510,475	496,036	-14,439	-2.8%
13	South San Jose/Almaden	214,616	223,169	247,795	240,099	-7,696	-3.1%
14	Gilroy/Morgan Hill	96,124	108,952	149,949	118,418	-31,531	-21.0%
15	Livermore/Pleasanton	165,886	191,906	281,665	243,293	-38,372	-13.6%
16	Fremont/Union City	309,575	330,037	402,065	369,550	-32,515	-8.1%
17	Hayward/San Leandro	345,965	363,954	415,767	392,712	-23,055	-5.5%
18	Oakland/Alameda	446,424	464,994	578,750	597,912	19,162	3.3%
19	Berkeley/Albany	148,157	153,402	177,646	161,422	-16,224	-9.1%
20	Richmond/El Cerrito	239,735	250,245	295,965	326,345	30,380	10.3%
21	Concord/Martinez	217,771	229,548	279,080	262,214	-16,866	-6.0%
22	Walnut Creek/Lamorinda	136,489	141,194	161,186	210,936	49,750	30.9%
23	Danville/San Ramon	114,030	124,977	164,398	139,105	-25,293	-15.4%
24	Antioch/Pittsburg	229,454	255,734	344,462	273,715	-70,747	-20.5%
25	Vallejo/Benicia	144,997	156,105	192,306	233,768	41,462	21.6%
26	Fairfield/Vacaville	233,571	267,896	368,587	296,852	-71,735	-19.5%
27	Napa	84,388	91,113	109,374	125,308	15,934	14.6%
28	St. Helena/Calistoga	34,658	36,285	38,331	44,940	6,609	17.2%
29	Petaluma/Sonoma	156,799	170,730	186,800	199,549	12,749	6.8%
30	Santa Rosa/Sebastopol	213,963	229,823	269,662	293,521	23,859	8.8%
31	Healdsburg/Cloverdale	76,750	86,154	97,746	86,454	-11,292	-11.6%
32	Novato	53,519	55,828	67,583	68,884	1,301	1.9%
33	San Rafael	100,342	103,303	111,176	119,403	8,227	7.4%
34	Mill Valley/Sausalito	81,942	83,909	92,319	91,121	-1,198	-1.3%
	Bay Area	**6,640,975**	**7,045,333**	**8,625,166**	**8,625,166**	**0**	**0.0%**
	San Francisco	756,977	777,687	913,800	1,008,499	94,699	10.4%
	San Mateo	696,713	723,108	833,822	853,963	20,141	2.4%
	Santa Clara	1,652,870	1,757,401	2,242,676	2,225,700	-16,976	-0.8%
	Alameda	1,416,007	1,504,293	1,855,893	1,764,889	-91,004	-4.9%
	Contra Costa	937,479	1,001,698	1,245,091	1,212,315	-32,776	-2.6%
	Solano	378,568	424,001	560,893	530,620	-30,273	-5.4%
	Napa	119,046	127,398	147,705	170,248	22,543	15.3%
	Sonoma	447,512	486,707	554,208	579,524	25,316	4.6%
	Marin	235,803	243,040	271,078	279,408	8,330	3.1%

Table D-4: Compare Total Households by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

		ABAG Projections 2003			*TRANSDEF*		*Percent*
	Superdistrict	*2000*	*2005*	*2030*	*2030*	*Difference*	*Difference*
1	Downtown San Francisco	68,139	70,457	90,839	107,500	16,661	18.3%
2	Richmond District	102,163	103,795	111,993	113,572	1,579	1.4%
3	Mission District	110,434	112,872	146,876	166,281	19,405	13.2%
4	Sunset District	48,961	49,527	52,886	54,834	1,948	3.7%
5	Daly City/San Bruno	96,371	98,356	112,182	113,573	1,391	1.2%
6	San Mateo/Burlingame	80,400	83,388	94,154	95,185	1,031	1.1%
7	Redwood City/Menlo Park	77,333	79,207	94,676	100,233	5,557	5.9%
8	Palo Alto/Los Altos	68,068	69,733	83,015	81,924	-1,091	-1.3%
9	Sunnyvale/Mountain View	88,679	93,475	129,646	131,929	2,283	1.8%
10	Saratoga/Cupertino	116,842	120,875	134,580	133,202	-1,378	-1.0%
11	Central San Jose	92,049	100,776	155,052	164,897	9,845	6.3%
12	Milpitas/East San Jose	99,420	105,073	136,508	130,620	-5,888	-4.3%
13	South San Jose/Almaden	71,320	73,637	82,963	79,451	-3,512	-4.2%
14	Gilroy/Morgan Hill	29,484	33,174	46,281	36,092	-10,189	-22.0%
15	Livermore/Pleasanton	60,487	68,513	101,460	87,132	-14,328	-14.1%
16	Fremont/Union City	99,510	103,601	126,244	115,518	-10,726	-8.5%
17	Hayward/San Leandro	122,610	126,105	145,020	136,469	-8,551	-5.9%
18	Oakland/Alameda	172,049	175,536	221,842	224,959	3,117	1.4%
19	Berkeley/Albany	68,709	69,639	81,356	73,139	-8,217	-10.1%
20	Richmond/El Cerrito	85,492	88,716	106,677	115,171	8,494	8.0%
21	Concord/Martinez	83,827	87,742	107,839	101,202	-6,637	-6.2%
22	Walnut Creek/Lamorinda	59,110	60,836	71,105	92,701	21,596	30.4%
23	Danville/San Ramon	41,471	45,304	61,439	51,788	-9,651	-15.7%
24	Antioch/Pittsburg	74,229	82,313	112,824	88,623	-24,201	-21.5%
25	Vallejo/Benicia	50,961	53,728	67,476	84,846	17,370	25.7%
26	Fairfield/Vacaville	79,442	89,448	125,894	100,499	-25,395	-20.2%
27	Napa	31,209	33,607	41,328	47,178	5,850	14.2%
28	St. Helena/Calistoga	14,193	14,834	15,904	18,967	3,063	19.3%
29	Petaluma/Sonoma	60,448	64,788	72,343	76,080	3,737	5.2%
30	Santa Rosa/Sebastopol	82,438	87,101	103,497	112,731	9,234	8.9%
31	Healdsburg/Cloverdale	29,517	32,502	37,317	32,601	-4,716	-12.6%
32	Novato	21,176	21,866	26,731	26,950	219	0.8%
33	San Rafael	41,527	42,308	45,902	48,864	2,962	6.5%
34	Mill Valley/Sausalito	37,947	38,515	42,743	41,887	-856	-2.0%
	Bay Area	**2,466,015**	**2,581,347**	**3,186,592**	**3,186,598**	**6**	**0.0%**
	San Francisco	329,697	336,651	402,594	442,187	39,593	9.8%
	San Mateo	254,104	260,951	301,012	308,991	7,979	2.7%
	Santa Clara	565,862	596,743	768,045	758,115	-9,930	-1.3%
	Alameda	523,365	543,394	675,922	637,217	-38,705	-5.7%
	Contra Costa	344,129	364,911	459,884	449,485	-10,399	-2.3%
	Solano	130,403	143,176	193,370	185,345	-8,025	-4.2%
	Napa	45,402	48,441	57,232	66,145	8,913	15.6%
	Sonoma	172,403	184,391	213,157	221,412	8,255	3.9%
	Marin	100,650	102,689	115,376	117,701	2,325	2.0%

Table D-5: Compare Mean Household Income by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

		ABAG Projections 2003			*TRANSDEF*		*Percent*
	Superdistrict	*2000*	*2005*	*2030*	*2030*	*Difference*	*Difference*
1	Downtown San Francisco	$46,835	$47,865	$63,628	$67,048	$3,420	5.4%
2	Richmond District	$72,131	$72,994	$92,021	$93,096	$1,075	1.2%
3	Mission District	$59,716	$59,743	$75,041	$75,980	$939	1.3%
4	Sunset District	$62,318	$60,553	$77,923	$79,347	$1,424	1.8%
5	Daly City/San Bruno	$66,690	$67,999	$86,355	$87,126	$772	0.9%
6	San Mateo/Burlingame	$91,490	$91,435	$119,979	$118,956	-$1,023	-0.9%
7	Redwood City/Menlo Park	$102,380	$103,070	$130,095	$127,296	-$2,799	-2.2%
8	Palo Alto/Los Altos	$97,455	$98,090	$126,025	$126,242	$216	0.2%
9	Sunnyvale/Mountain View	$67,517	$68,900	$83,739	$85,354	$1,615	1.9%
10	Saratoga/Cupertino	$83,424	$83,888	$111,962	$112,196	$234	0.2%
11	Central San Jose	$54,893	$53,760	$68,940	$69,581	$641	0.9%
12	Milpitas/East San Jose	$70,143	$70,384	$92,951	$92,457	-$494	-0.5%
13	South San Jose/Almaden	$74,634	$74,608	$98,306	$98,849	$544	0.6%
14	Gilroy/Morgan Hill	$70,497	$71,511	$95,850	$95,938	$88	0.1%
15	Livermore/Pleasanton	$74,816	$76,097	$94,744	$94,779	$36	0.0%
16	Fremont/Union City	$68,100	$67,233	$85,512	$85,405	-$107	-0.1%
17	Hayward/San Leandro	$49,439	$49,713	$63,444	$64,693	$1,250	2.0%
18	Oakland/Alameda	$47,970	$47,222	$60,314	$60,378	$63	0.1%
19	Berkeley/Albany	$52,342	$52,847	$67,442	$67,317	-$124	-0.2%
20	Richmond/El Cerrito	$47,337	$47,350	$63,223	$64,146	$923	1.5%
21	Concord/Martinez	$55,521	$56,092	$71,378	$72,170	$792	1.1%
22	Walnut Creek/Lamorinda	$80,403	$80,751	$104,465	$102,314	-$2,151	-2.1%
23	Danville/San Ramon	$105,766	$107,522	$135,403	$134,845	-$557	-0.4%
24	Antioch/Pittsburg	$50,106	$51,996	$64,822	$65,648	$827	1.3%
25	Vallejo/Benicia	$47,921	$47,631	$64,141	$57,101	-$7,040	-11.0%
26	Fairfield/Vacaville	$49,040	$48,091	$61,445	$60,966	-$479	-0.8%
27	Napa	$48,051	$51,036	$65,906	$63,515	-$2,392	-3.6%
28	St. Helena/Calistoga	$65,028	$70,932	$94,960	$91,737	-$3,223	-3.4%
29	Petaluma/Sonoma	$53,500	$56,126	$72,551	$73,927	$1,376	1.9%
30	Santa Rosa/Sebastopol	$50,402	$51,669	$67,006	$67,201	$196	0.3%
31	Healdsburg/Cloverdale	$51,225	$53,578	$68,343	$70,414	$2,072	3.0%
32	Novato	$63,115	$61,720	$76,977	$77,664	$687	0.9%
33	San Rafael	$67,385	$67,549	$87,428	$87,299	-$129	-0.1%
34	Mill Valley/Sausalito	$100,420	$99,759	$128,291	$128,996	$705	0.5%
	Bay Area	**$64,915**	**$65,248**	**$83,302**	**$83,336**	**$35**	**0.0%**
	San Francisco	$61,287	$61,461	$81,029	$78,622	-$2,407	-3.0%
	San Mateo	$85,399	$86,133	$115,564	$109,962	-$5,602	-4.8%
	Santa Clara	$73,863	$73,901	$98,415	$94,200	-$4,215	-4.3%
	Alameda	$55,818	$55,977	$74,918	$71,340	-$3,579	-4.8%
	Contra Costa	$62,649	$63,539	$85,225	$82,266	-$2,959	-3.5%
	Solano	$48,603	$47,919	$65,034	$59,196	-$5,838	-9.0%
	Napa	$53,358	$57,129	$77,283	$71,607	-$5,676	-7.3%
	Sonoma	$51,629	$53,571	$72,208	$69,985	-$2,223	-3.1%
	Marin	$78,942	$78,388	$104,617	$99,932	-$4,685	-4.5%

Table D-6: Compare Employed Residents by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

		ABAG Projections 2003			*TRANSDEF*		*Percent*
	Superdistrict	*2000*	*2005*	*2030*	*2030*	*Difference*	*Difference*
1	Downtown San Francisco	67,021	66,175	98,901	114,311	15,410	15.6%
2	Richmond District	129,693	126,105	150,078	154,485	4,407	2.9%
3	Mission District	162,150	158,499	221,159	248,452	27,293	12.3%
4	Sunset District	69,195	67,042	77,363	81,516	4,153	5.4%
5	Daly City/San Bruno	145,158	143,219	191,889	196,086	4,197	2.2%
6	San Mateo/Burlingame	107,550	108,099	146,236	148,927	2,691	1.8%
7	Redwood City/Menlo Park	109,012	108,116	152,576	160,729	8,153	5.3%
8	Palo Alto/Los Altos	88,209	85,539	126,344	127,588	1,244	1.0%
9	Sunnyvale/Mountain View	124,983	124,804	205,533	211,426	5,893	2.9%
10	Saratoga/Cupertino	159,059	155,963	217,790	218,328	538	0.2%
11	Central San Jose	137,328	143,433	254,990	271,513	16,523	6.5%
12	Milpitas/East San Jose	175,469	176,280	272,475	265,606	-6,869	-2.5%
13	South San Jose/Almaden	112,802	110,368	156,234	152,024	-4,210	-2.7%
14	Gilroy/Morgan Hill	46,887	50,383	80,025	63,144	-16,881	-21.1%
15	Livermore/Pleasanton	89,160	101,478	175,552	153,831	-21,721	-12.4%
16	Fremont/Union City	153,519	161,510	239,371	221,824	-17,547	-7.3%
17	Hayward/San Leandro	164,659	170,589	229,849	218,952	-10,897	-4.7%
18	Oakland/Alameda	202,143	207,125	304,153	308,631	4,478	1.5%
19	Berkeley/Albany	84,712	86,315	114,276	103,749	-10,527	-9.2%
20	Richmond/El Cerrito	109,135	114,585	156,209	169,277	13,068	8.4%
21	Concord/Martinez	113,130	120,165	172,317	163,352	-8,965	-5.2%
22	Walnut Creek/Lamorinda	67,122	69,890	93,705	126,286	32,581	34.8%
23	Danville/San Ramon	59,965	66,629	103,784	88,902	-14,882	-14.3%
24	Antioch/Pittsburg	102,637	115,515	178,727	141,917	-36,810	-20.6%
25	Vallejo/Benicia	67,090	73,858	103,452	119,563	16,111	15.6%
26	Fairfield/Vacaville	111,913	130,829	202,047	163,230	-38,817	-19.2%
27	Napa	40,508	43,184	60,862	67,359	6,497	10.7%
28	St. Helena/Calistoga	18,081	18,595	22,135	25,191	3,056	13.8%
29	Petaluma/Sonoma	82,841	92,065	108,285	116,458	8,173	7.5%
30	Santa Rosa/Sebastopol	108,296	118,730	149,258	163,105	13,847	9.3%
31	Healdsburg/Cloverdale	38,843	44,279	51,554	45,751	-5,803	-11.3%
32	Novato	28,540	29,912	41,503	42,413	910	2.2%
33	San Rafael	54,652	56,346	66,478	71,736	5,258	7.9%
34	Mill Valley/Sausalito	45,910	47,190	58,119	57,639	-480	-0.8%
	Bay Area	**3,377,372**	**3,492,814**	**4,983,229**	**4,983,301**	**72**	**0.0%**
	San Francisco	428,059	417,821	547,501	598,764	51,263	9.4%
	San Mateo	361,720	359,434	490,701	505,742	15,041	3.1%
	Santa Clara	844,737	846,770	1,313,391	1,309,629	-3,762	-0.3%
	Alameda	694,193	727,017	1,063,201	1,006,987	-56,214	-5.3%
	Contra Costa	451,989	486,784	704,742	689,734	-15,008	-2.1%
	Solano	179,003	204,687	305,499	282,793	-22,706	-7.4%
	Napa	58,589	61,779	82,997	92,550	9,553	11.5%
	Sonoma	229,980	255,074	309,097	325,314	16,217	5.2%
	Marin	129,102	133,448	166,100	171,788	5,688	3.4%

Table D-7: Compare Total Employment by MTC 34 Superdistrict & County, 2000-2030
ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

		ABAG Projections 2003			*TRANSDEF*		*Percent*
	Superdistrict	*2000*	*2005*	*2030*	*2030*	*Difference*	*Difference*
1	Downtown San Francisco	386,585	394,752	489,191	495,957	6,766	1.4%
2	Richmond District	81,534	78,013	103,263	121,422	18,159	17.6%
3	Mission District	138,117	137,034	187,294	189,390	2,096	1.1%
4	Sunset District	28,216	25,715	35,473	35,154	-319	-0.9%
5	Daly City/San Bruno	163,295	162,678	227,295	240,168	12,873	5.7%
6	San Mateo/Burlingame	111,981	112,581	144,940	150,848	5,908	4.1%
7	Redwood City/Menlo Park	120,629	121,400	154,326	171,246	16,920	11.0%
8	Palo Alto/Los Altos	179,491	178,678	202,999	209,619	6,620	3.3%
9	Sunnyvale/Mountain View	372,458	370,141	467,849	493,819	25,970	5.6%
10	Saratoga/Cupertino	145,643	144,506	183,784	186,076	2,292	1.2%
11	Central San Jose	161,034	161,505	255,869	257,904	2,035	0.8%
12	Milpitas/East San Jose	120,310	118,062	171,727	184,824	13,097	7.6%
13	South San Jose/Almaden	71,208	69,742	101,265	94,172	-7,093	-7.0%
14	Gilroy/Morgan Hill	42,200	43,255	91,876	62,219	-29,657	-32.3%
15	Livermore/Pleasanton	119,075	125,067	211,513	186,791	-24,722	-11.7%
16	Fremont/Union City	145,553	156,442	228,417	185,983	-42,434	-18.6%
17	Hayward/San Leandro	163,593	170,622	216,889	230,825	13,936	6.4%
18	Oakland/Alameda	216,170	227,273	306,476	316,859	10,383	3.4%
19	Berkeley/Albany	107,279	110,994	124,068	131,869	7,801	6.3%
20	Richmond/El Cerrito	76,291	82,650	111,526	118,191	6,665	6.0%
21	Concord/Martinez	104,518	110,012	147,133	149,174	2,041	1.4%
22	Walnut Creek/Lamorinda	82,823	86,439	98,481	128,192	29,711	30.2%
23	Danville/San Ramon	53,803	58,697	80,629	61,758	-18,871	-23.4%
24	Antioch/Pittsburg	43,670	47,262	98,643	57,396	-41,247	-41.8%
25	Vallejo/Benicia	43,881	47,776	71,462	81,348	9,886	13.8%
26	Fairfield/Vacaville	79,330	85,854	133,211	120,203	-13,008	-9.8%
27	Napa	41,453	46,322	62,157	61,869	-288	-0.5%
28	St. Helena/Calistoga	25,381	25,937	26,841	26,927	86	0.3%
29	Petaluma/Sonoma	61,085	66,104	102,620	99,889	-2,731	-2.7%
30	Santa Rosa/Sebastopol	123,534	136,135	187,674	180,741	-6,933	-3.7%
31	Healdsburg/Cloverdale	20,602	22,022	30,719	25,048	-5,671	-18.5%
32	Novato	27,878	28,582	45,295	44,033	-1,262	-2.8%
33	San Rafael	52,911	54,042	63,854	69,152	5,298	8.3%
34	Mill Valley/Sausalito	42,175	42,666	54,815	50,899	-3,916	-7.1%
	Bay Area	**3,753,706**	**3,848,960**	**5,219,574**	**5,219,965**	**391**	**0.0%**
	San Francisco	634,452	635,514	815,221	841,923	26,702	3.3%
	San Mateo	395,905	396,659	526,561	562,262	35,701	6.8%
	Santa Clara	1,092,344	1,085,889	1,475,369	1,488,633	13,264	0.9%
	Alameda	751,670	790,398	1,087,363	1,052,327	-35,036	-3.2%
	Contra Costa	361,105	385,060	536,412	514,711	-21,701	-4.0%
	Solano	123,211	133,630	204,673	201,551	-3,122	-1.5%
	Napa	66,834	72,259	88,998	88,796	-202	-0.2%
	Sonoma	205,221	224,261	321,013	305,678	-15,335	-4.8%
	Marin	122,964	125,290	163,964	164,084	120	0.1%

Table D-8: Compare Residential Acres by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

		ABAG Projections 2003			*TRANSDEF*		*Percent*
	Superdistrict	*2000*	*2005*	*2030*	*2030*	*Difference*	*Difference*
1	Downtown San Francisco	547	553	586	598	12	2.0%
2	Richmond District	2,259	2,275	2,318	2,318	0	0.0%
3	Mission District	4,025	4,072	4,279	4,441	162	3.8%
4	Sunset District	2,540	2,561	2,609	2,609	0	0.0%
5	Daly City/San Bruno	9,945	10,094	10,525	9,967	-558	-5.3%
6	San Mateo/Burlingame	16,715	17,174	18,535	16,725	-1,810	-9.8%
7	Redwood City/Menlo Park	34,320	35,295	37,131	34,341	-2,790	-7.5%
8	Palo Alto/Los Altos	17,931	18,126	18,526	17,948	-578	-3.1%
9	Sunnyvale/Mountain View	10,992	11,239	11,984	11,005	-979	-8.2%
10	Saratoga/Cupertino	28,375	28,774	29,228	28,379	-849	-2.9%
11	Central San Jose	12,404	12,640	13,451	12,478	-973	-7.2%
12	Milpitas/East San Jose	18,948	19,519	20,659	19,165	-1,494	-7.2%
13	South San Jose/Almaden	14,928	15,208	15,558	14,929	-629	-4.0%
14	Gilroy/Morgan Hill	13,779	15,024	19,492	13,779	-5,713	-29.3%
15	Livermore/Pleasanton	20,655	23,388	26,729	21,572	-5,157	-19.3%
16	Fremont/Union City	18,923	19,556	20,450	18,931	-1,519	-7.4%
17	Hayward/San Leandro	21,540	21,993	22,492	21,551	-941	-4.2%
18	Oakland/Alameda	18,629	18,786	19,434	18,765	-669	-3.4%
19	Berkeley/Albany	5,881	5,900	6,055	5,909	-146	-2.4%
20	Richmond/El Cerrito	11,616	11,965	13,311	11,670	-1,641	-12.3%
21	Concord/Martinez	15,800	16,371	17,835	15,865	-1,970	-11.0%
22	Walnut Creek/Lamorinda	19,317	19,751	20,839	19,358	-1,481	-7.1%
23	Danville/San Ramon	16,821	17,605	19,135	17,011	-2,124	-11.1%
24	Antioch/Pittsburg	16,495	18,239	21,692	17,026	-4,666	-21.5%
25	Vallejo/Benicia	7,752	8,037	8,506	8,094	-412	-4.8%
26	Fairfield/Vacaville	34,737	38,224	42,856	35,210	-7,646	-17.8%
27	Napa	7,586	7,950	8,961	8,025	-936	-10.4%
28	St. Helena/Calistoga	10,272	10,586	11,008	10,375	-633	-5.8%
29	Petaluma/Sonoma	38,637	40,696	41,928	39,203	-2,725	-6.5%
30	Santa Rosa/Sebastopol	58,457	60,275	62,512	59,270	-3,242	-5.2%
31	Healdsburg/Cloverdale	45,721	48,659	50,968	45,770	-5,198	-10.2%
32	Novato	6,733	6,903	7,501	7,060	-441	-5.9%
33	San Rafael	14,497	14,600	15,155	14,756	-399	-2.6%
34	Mill Valley/Sausalito	9,115	9,202	9,572	9,325	-247	-2.6%
	Bay Area	**586,892**	**611,240**	**651,820**	**593,428**	**-58,392**	**-9.0%**
	San Francisco	9,371	9,461	9,792	9,966	174	1.8%
	San Mateo	60,980	62,563	66,191	61,033	-5,158	-7.8%
	Santa Clara	117,357	120,530	128,898	117,683	-11,215	-8.7%
	Alameda	85,628	89,623	95,160	86,728	-8,432	-8.9%
	Contra Costa	80,049	83,931	92,812	80,930	-11,882	-12.8%
	Solano	42,489	46,261	51,362	43,304	-8,058	-15.7%
	Napa	17,858	18,536	19,969	18,400	-1,569	-7.9%
	Sonoma	142,815	149,630	155,408	144,243	-11,165	-7.2%
	Marin	30,345	30,705	32,228	31,141	-1,087	-3.4%

Table D-9: Compare Commercial + Industrial Acres by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

		ABAG Projections 2003			*TRANSDEF*		*Percent*
	Superdistrict	*2000*	*2005*	*2030*	*2030*	*Difference*	*Difference*
1	Downtown San Francisco	1,395	1,397	1,399	1,387	-12	-0.9%
2	Richmond District	969	969	1,023	1,023	0	0.0%
3	Mission District	3,070	3,066	3,129	3,051	-78	-2.5%
4	Sunset District	438	435	442	442	0	0.0%
5	Daly City/San Bruno	8,545	8,549	8,642	8,592	-50	-0.6%
6	San Mateo/Burlingame	4,942	4,943	4,981	4,976	-5	-0.1%
7	Redwood City/Menlo Park	9,642	9,640	9,649	9,649	0	0.0%
8	Palo Alto/Los Altos	4,404	4,401	4,421	4,405	-16	-0.4%
9	Sunnyvale/Mountain View	17,015	17,007	17,112	16,921	-191	-1.1%
10	Saratoga/Cupertino	5,234	5,231	5,260	5,109	-151	-2.9%
11	Central San Jose	5,709	5,708	5,899	5,706	-193	-3.3%
12	Milpitas/East San Jose	6,354	6,356	6,386	6,267	-119	-1.9%
13	South San Jose/Almaden	3,134	3,132	3,264	3,097	-167	-5.1%
14	Gilroy/Morgan Hill	2,957	2,956	3,062	2,927	-135	-4.4%
15	Livermore/Pleasanton	9,100	9,097	9,342	9,165	-177	-1.9%
16	Fremont/Union City	10,311	10,311	10,575	10,317	-258	-2.4%
17	Hayward/San Leandro	12,115	12,121	12,237	12,129	-108	-0.9%
18	Oakland/Alameda	13,750	13,746	14,061	13,782	-279	-2.0%
19	Berkeley/Albany	3,413	3,416	3,484	3,424	-60	-1.7%
20	Richmond/El Cerrito	8,308	8,307	9,061	8,304	-757	-8.4%
21	Concord/Martinez	12,382	12,382	13,013	12,483	-530	-4.1%
22	Walnut Creek/Lamorinda	2,727	2,727	2,946	2,733	-213	-7.2%
23	Danville/San Ramon	2,274	2,272	2,703	2,275	-428	-15.8%
24	Antioch/Pittsburg	10,030	10,048	11,530	10,054	-1,476	-12.8%
25	Vallejo/Benicia	6,608	6,606	6,723	6,721	-2	0.0%
26	Fairfield/Vacaville	18,550	18,549	19,040	18,909	-131	-0.7%
27	Napa	2,601	2,599	2,729	2,704	-25	-0.9%
28	St. Helena/Calistoga	2,182	2,181	2,190	2,190	0	0.0%
29	Petaluma/Sonoma	11,047	11,043	11,161	11,161	0	0.0%
30	Santa Rosa/Sebastopol	9,515	9,515	9,569	9,487	-82	-0.9%
31	Healdsburg/Cloverdale	11,796	11,795	11,813	11,813	0	0.0%
32	Novato	2,414	2,414	2,419	2,419	0	0.0%
33	San Rafael	4,319	4,321	4,390	4,390	0	0.0%
34	Mill Valley/Sausalito	1,919	1,920	1,935	1,935	0	0.0%
	Bay Area	**229,169**	**229,160**	**235,590**	**229,947**	**-5,643**	**-2.4%**
	San Francisco	5,872	5,867	5,993	5,903	-90	-1.5%
	San Mateo	23,129	23,132	23,272	23,217	-55	-0.2%
	Santa Clara	44,807	44,791	45,404	44,432	-972	-2.1%
	Alameda	48,689	48,691	49,699	48,817	-882	-1.8%
	Contra Costa	35,721	35,736	39,253	35,849	-3,404	-8.7%
	Solano	25,158	25,155	25,763	25,630	-133	-0.5%
	Napa	4,783	4,780	4,919	4,894	-25	-0.5%
	Sonoma	32,358	32,353	32,543	32,461	-82	-0.3%
	Marin	8,652	8,655	8,744	8,744	0	0.0%

Table D-10: Compare Single-Family Households by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

		ABAG Projections 2003			*TRANSDEF*		*Percent*
	Superdistrict	*2000*	*2005*	*2030*	*2030*	*Difference*	*Difference*
1	Downtown San Francisco	2,246	2,282	2,360	2,557	197	8.3%
2	Richmond District	17,081	17,338	14,326	11,295	-3,031	-21.2%
3	Mission District	55,300	56,226	66,256	65,099	-1,157	-1.7%
4	Sunset District	33,102	33,468	35,152	35,667	515	1.5%
5	Daly City/San Bruno	66,445	67,743	74,982	70,913	-4,069	-5.4%
6	San Mateo/Burlingame	49,832	51,721	56,485	51,702	-4,783	-8.5%
7	Redwood City/Menlo Park	53,340	54,552	61,454	57,628	-3,826	-6.2%
8	Palo Alto/Los Altos	41,318	42,075	46,440	42,031	-4,409	-9.5%
9	Sunnyvale/Mountain View	40,871	42,735	51,287	46,340	-4,947	-9.6%
10	Saratoga/Cupertino	80,542	83,447	91,453	87,606	-3,847	-4.2%
11	Central San Jose	51,382	55,256	71,910	67,350	-4,560	-6.3%
12	Milpitas/East San Jose	79,005	83,393	104,650	95,473	-9,177	-8.8%
13	South San Jose/Almaden	55,203	57,032	63,514	59,036	-4,478	-7.1%
14	Gilroy/Morgan Hill	22,699	25,641	35,388	25,920	-9,468	-26.8%
15	Livermore/Pleasanton	47,672	54,063	78,725	63,948	-14,777	-18.8%
16	Fremont/Union City	72,259	75,408	89,205	77,160	-12,045	-13.5%
17	Hayward/San Leandro	81,530	83,737	92,397	82,725	-9,672	-10.5%
18	Oakland/Alameda	88,180	89,623	100,537	97,569	-2,968	-3.0%
19	Berkeley/Albany	32,546	32,824	35,284	31,638	-3,646	-10.3%
20	Richmond/El Cerrito	61,083	63,238	74,534	76,330	1,796	2.4%
21	Concord/Martinez	59,645	62,619	76,242	68,161	-8,081	-10.6%
22	Walnut Creek/Lamorinda	40,225	41,413	47,336	56,019	8,683	18.3%
23	Danville/San Ramon	36,013	39,337	51,691	42,110	-9,581	-18.5%
24	Antioch/Pittsburg	59,376	66,147	89,722	69,732	-19,990	-22.3%
25	Vallejo/Benicia	37,716	39,506	47,512	49,906	2,394	5.0%
26	Fairfield/Vacaville	61,885	70,014	97,496	75,980	-21,516	-22.1%
27	Napa	22,798	24,487	29,637	30,159	522	1.8%
28	St. Helena/Calistoga	10,731	11,244	11,979	13,291	1,312	11.0%
29	Petaluma/Sonoma	45,531	48,705	53,921	54,002	81	0.2%
30	Santa Rosa/Sebastopol	60,239	63,754	74,068	74,160	92	0.1%
31	Healdsburg/Cloverdale	24,987	27,392	31,078	27,313	-3,765	-12.1%
32	Novato	15,842	16,255	19,386	18,941	-445	-2.3%
33	San Rafael	28,316	28,694	30,616	29,211	-1,405	-4.6%
34	Mill Valley/Sausalito	25,081	25,451	27,951	26,463	-1,488	-5.3%
	Bay Area	**1,560,021**	**1,636,820**	**1,934,974**	**1,783,435**	**-151,539**	**-7.8%**
	San Francisco	107,729	109,314	118,094	114,618	-3,476	-2.9%
	San Mateo	169,617	174,016	192,921	180,243	-12,678	-6.6%
	Santa Clara	371,020	389,579	464,642	423,756	-40,886	-8.8%
	Alameda	322,187	335,655	396,148	353,040	-43,108	-10.9%
	Contra Costa	256,342	272,754	339,525	312,352	-27,173	-8.0%
	Solano	99,601	109,520	145,008	125,886	-19,122	-13.2%
	Napa	33,529	35,731	41,616	43,450	1,834	4.4%
	Sonoma	130,757	139,851	159,067	155,475	-3,592	-2.3%
	Marin	69,239	70,400	77,953	74,615	-3,338	-4.3%

Table D-11: Compare Multi-Family Households by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

		ABAG Projections 2003			*TRANSDEF*		*Percent*
	Superdistrict	*2000*	*2005*	*2030*	*2030*	*Difference*	*Difference*
1	Downtown San Francisco	65,893	68,175	88,479	93,407	4,928	5.6%
2	Richmond District	85,082	86,457	97,667	101,746	4,079	4.2%
3	Mission District	55,134	56,646	80,620	89,436	8,816	10.9%
4	Sunset District	15,859	16,059	17,734	19,167	1,433	8.1%
5	Daly City/San Bruno	29,926	30,613	37,200	42,673	5,473	14.7%
6	San Mateo/Burlingame	30,568	31,667	37,669	43,483	5,814	15.4%
7	Redwood City/Menlo Park	23,993	24,655	33,222	42,605	9,383	28.2%
8	Palo Alto/Los Altos	26,750	27,658	36,575	39,552	2,977	8.1%
9	Sunnyvale/Mountain View	47,808	50,740	78,359	87,260	8,901	11.4%
10	Saratoga/Cupertino	36,300	37,428	43,127	45,596	2,469	5.7%
11	Central San Jose	40,667	45,520	83,142	97,547	14,405	17.3%
12	Milpitas/East San Jose	20,415	21,680	31,858	35,176	3,318	10.4%
13	South San Jose/Almaden	16,117	16,605	19,449	20,415	966	5.0%
14	Gilroy/Morgan Hill	6,785	7,533	10,893	10,172	-721	-6.6%
15	Livermore/Pleasanton	12,815	14,450	22,735	23,184	449	2.0%
16	Fremont/Union City	27,251	28,193	37,039	37,548	509	1.4%
17	Hayward/San Leandro	41,080	42,368	52,623	53,744	1,121	2.1%
18	Oakland/Alameda	83,869	85,913	121,305	126,727	5,422	4.5%
19	Berkeley/Albany	36,163	36,815	46,072	41,853	-4,219	-9.2%
20	Richmond/El Cerrito	24,409	25,478	32,143	38,841	6,698	20.8%
21	Concord/Martinez	24,182	25,123	31,597	33,041	1,444	4.6%
22	Walnut Creek/Lamorinda	18,885	19,423	23,769	36,682	12,913	54.3%
23	Danville/San Ramon	5,458	5,967	9,748	9,678	-70	-0.7%
24	Antioch/Pittsburg	14,853	16,166	23,102	18,891	-4,211	-18.2%
25	Vallejo/Benicia	13,245	14,222	19,964	34,940	14,976	75.0%
26	Fairfield/Vacaville	17,557	19,434	28,398	24,519	-3,879	-13.7%
27	Napa	8,411	9,120	11,691	17,019	5,328	45.6%
28	St. Helena/Calistoga	3,462	3,590	3,925	5,676	1,751	44.6%
29	Petaluma/Sonoma	14,917	16,083	18,422	22,078	3,656	19.8%
30	Santa Rosa/Sebastopol	22,199	23,347	29,429	38,571	9,142	31.1%
31	Healdsburg/Cloverdale	4,530	5,110	6,239	5,288	-951	-15.2%
32	Novato	5,334	5,611	7,345	8,009	664	9.0%
33	San Rafael	13,211	13,614	15,286	19,653	4,367	28.6%
34	Mill Valley/Sausalito	12,866	13,064	14,792	15,424	632	4.3%
	Bay Area	**905,994**	**944,527**	**1,251,618**	**1,379,601**	**127,983**	**10.2%**
	San Francisco	221,968	227,337	284,500	303,756	19,256	6.8%
	San Mateo	84,487	86,935	108,091	128,761	20,670	19.1%
	Santa Clara	194,842	207,164	303,403	335,718	32,315	10.7%
	Alameda	201,178	207,739	279,774	283,056	3,282	1.2%
	Contra Costa	87,787	92,157	120,359	137,133	16,774	13.9%
	Solano	30,802	33,656	48,362	59,459	11,097	22.9%
	Napa	11,873	12,710	15,616	22,695	7,079	45.3%
	Sonoma	41,646	44,540	54,090	65,937	11,847	21.9%
	Marin	31,411	32,289	37,423	43,086	5,663	15.1%

Table D-12: Compare Zero-Vehicle Households by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

		ABAG Projections 2003			*TRANSDEF*		*Percent*
	Superdistrict	*2000*	*2005*	*2030*	*2030*	*Difference*	*Difference*
1	Downtown San Francisco	40,154	41,433	52,702	70,794	18,092	34.3%
2	Richmond District	23,892	23,165	26,308	33,103	6,795	25.8%
3	Mission District	20,814	20,306	29,455	37,903	8,448	28.7%
4	Sunset District	6,165	6,061	5,891	6,091	200	3.4%
5	Daly City/San Bruno	6,660	4,466	6,168	7,173	1,005	16.3%
6	San Mateo/Burlingame	4,628	3,290	4,153	6,035	1,882	45.3%
7	Redwood City/Menlo Park	4,832	3,533	5,460	9,946	4,486	82.2%
8	Palo Alto/Los Altos	3,935	3,469	4,337	5,837	1,500	34.6%
9	Sunnyvale/Mountain View	4,989	4,913	8,558	10,205	1,647	19.2%
10	Saratoga/Cupertino	5,375	4,725	4,701	5,417	716	15.2%
11	Central San Jose	8,566	10,314	19,439	26,763	7,324	37.7%
12	Milpitas/East San Jose	5,488	5,420	7,506	8,779	1,273	17.0%
13	South San Jose/Almaden	3,041	2,546	2,704	3,264	560	20.7%
14	Gilroy/Morgan Hill	1,449	1,350	1,568	1,563	-5	-0.3%
15	Livermore/Pleasanton	2,043	1,823	2,481	9,236	6,755	272.3%
16	Fremont/Union City	4,646	4,069	5,534	8,561	3,027	54.7%
17	Hayward/San Leandro	9,669	9,835	11,740	12,497	757	6.4%
18	Oakland/Alameda	30,825	32,747	48,447	56,904	8,457	17.5%
19	Berkeley/Albany	10,969	11,153	12,410	13,059	649	5.2%
20	Richmond/El Cerrito	8,659	8,882	8,994	13,310	4,316	48.0%
21	Concord/Martinez	5,719	5,978	6,567	7,664	1,097	16.7%
22	Walnut Creek/Lamorinda	3,397	3,309	4,024	8,883	4,859	120.8%
23	Danville/San Ramon	924	885	2,050	5,355	3,305	161.2%
24	Antioch/Pittsburg	4,290	4,241	4,974	4,952	-22	-0.4%
25	Vallejo/Benicia	3,981	4,107	5,381	16,378	10,997	204.4%
26	Fairfield/Vacaville	4,453	4,729	5,886	7,897	2,011	34.2%
27	Napa	2,074	1,964	2,045	5,485	3,440	168.2%
28	St. Helena/Calistoga	633	521	417	713	296	71.0%
29	Petaluma/Sonoma	3,382	2,681	1,918	3,504	1,586	82.7%
30	Santa Rosa/Sebastopol	5,093	4,679	4,003	10,275	6,272	156.7%
31	Healdsburg/Cloverdale	1,403	1,396	1,302	1,924	622	47.8%
32	Novato	1,072	1,075	893	1,257	364	40.8%
33	San Rafael	2,462	2,412	2,214	3,456	1,242	56.1%
34	Mill Valley/Sausalito	1,550	1,187	1,139	1,245	106	9.3%
	Bay Area	**247,232**	**242,664**	**311,369**	**425,428**	**114,059**	**36.6%**
	San Francisco	91,025	90,965	114,356	147,891	33,535	29.3%
	San Mateo	16,120	11,289	15,781	23,154	7,373	46.7%
	Santa Clara	32,843	32,737	48,813	61,828	13,015	26.7%
	Alameda	58,152	59,627	80,612	100,257	19,645	24.4%
	Contra Costa	22,989	23,295	26,609	40,164	13,555	50.9%
	Solano	8,434	8,836	11,267	24,275	13,008	115.5%
	Napa	2,707	2,485	2,462	6,198	3,736	151.7%
	Sonoma	9,878	8,756	7,223	15,703	8,480	117.4%
	Marin	5,084	4,674	4,246	5,958	1,712	40.3%

Table D-13: Compare Total Household Vehicles by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

		ABAG Projections 2003			*TRANSDEF*		*Percent*
	Superdistrict	*2000*	*2005*	*2030*	*2030*	*Difference*	*Difference*
1	Downtown San Francisco	35,362	37,509	50,396	47,140	-3,256	-6.5%
2	Richmond District	114,724	120,969	126,299	114,485	-11,814	-9.4%
3	Mission District	147,744	155,719	195,446	211,350	15,904	8.1%
4	Sunset District	73,335	75,191	82,300	85,376	3,076	3.7%
5	Daly City/San Bruno	180,808	201,192	221,872	219,334	-2,538	-1.1%
6	San Mateo/Burlingame	146,593	164,268	180,086	172,581	-7,505	-4.2%
7	Redwood City/Menlo Park	148,070	162,338	186,277	180,481	-5,796	-3.1%
8	Palo Alto/Los Altos	122,940	131,170	152,806	144,979	-7,828	-5.1%
9	Sunnyvale/Mountain View	155,075	167,011	220,802	217,857	-2,945	-1.3%
10	Saratoga/Cupertino	228,126	244,545	272,990	266,058	-6,931	-2.5%
11	Central San Jose	164,153	179,354	265,265	264,938	-327	-0.1%
12	Milpitas/East San Jose	225,007	242,385	311,508	290,522	-20,986	-6.7%
13	South San Jose/Almaden	150,499	161,058	180,767	169,926	-10,841	-6.0%
14	Gilroy/Morgan Hill	63,309	73,917	104,621	80,437	-24,184	-23.1%
15	Livermore/Pleasanton	123,239	144,141	214,092	152,937	-61,155	-28.6%
16	Fremont/Union City	204,543	220,604	264,570	226,522	-38,048	-14.4%
17	Hayward/San Leandro	223,274	232,689	267,373	246,552	-20,821	-7.8%
18	Oakland/Alameda	239,824	244,465	296,768	284,232	-12,536	-4.2%
19	Berkeley/Albany	91,977	94,301	111,667	96,756	-14,911	-13.4%
20	Richmond/El Cerrito	146,378	153,203	191,150	194,704	3,555	1.9%
21	Concord/Martinez	155,209	163,259	203,787	184,787	-19,000	-9.3%
22	Walnut Creek/Lamorinda	106,396	111,961	129,343	157,111	27,768	21.5%
23	Danville/San Ramon	88,840	99,183	126,831	97,416	-29,414	-23.2%
24	Antioch/Pittsburg	146,811	167,049	234,184	177,697	-56,487	-24.1%
25	Vallejo/Benicia	95,633	103,263	129,850	134,289	4,438	3.4%
26	Fairfield/Vacaville	157,557	180,717	259,280	196,067	-63,213	-24.4%
27	Napa	57,575	64,336	81,274	82,010	735	0.9%
28	St. Helena/Calistoga	27,301	30,053	33,394	38,376	4,982	14.9%
29	Petaluma/Sonoma	116,241	131,630	152,901	153,535	634	0.4%
30	Santa Rosa/Sebastopol	152,409	166,167	207,290	208,618	1,328	0.6%
31	Healdsburg/Cloverdale	57,179	64,628	76,408	62,344	-14,064	-18.4%
32	Novato	40,088	41,458	52,893	51,194	-1,699	-3.2%
33	San Rafael	73,168	75,292	83,769	84,558	788	0.9%
34	Mill Valley/Sausalito	65,598	70,104	78,430	75,955	-2,475	-3.2%
	Bay Area	**4,324,985**	**4,675,130**	**5,746,689**	**5,371,124**	**-375,565**	**-6.5%**
	San Francisco	371,165	389,388	454,441	458,351	3,910	0.9%
	San Mateo	475,472	527,798	588,235	572,396	-15,839	-2.7%
	Santa Clara	1,109,108	1,199,439	1,508,759	1,434,716	-74,042	-4.9%
	Alameda	882,858	936,200	1,154,471	1,006,999	-147,471	-12.8%
	Contra Costa	643,634	694,655	885,294	811,716	-73,578	-8.3%
	Solano	253,190	283,980	389,130	330,356	-58,775	-15.1%
	Napa	84,876	94,389	114,668	120,385	5,717	5.0%
	Sonoma	325,829	362,425	436,599	424,497	-12,102	-2.8%
	Marin	178,853	186,855	215,092	211,706	-3,386	-1.6%

Table D-14: Compare Average Vehicles per Household by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

		ABAG Projections 2003			*TRANSDEF*		*Percent*
	Superdistrict	*2000*	*2005*	*2030*	*2030*	*Difference*	*Difference*
1	Downtown San Francisco	0.52	0.53	0.55	0.44	-0.12	-21.0%
2	Richmond District	1.12	1.17	1.13	1.01	-0.12	-10.6%
3	Mission District	1.34	1.38	1.33	1.27	-0.06	-4.5%
4	Sunset District	1.50	1.52	1.56	1.56	0.00	0.1%
5	Daly City/San Bruno	1.88	2.05	1.98	1.93	-0.05	-2.4%
6	San Mateo/Burlingame	1.82	1.97	1.91	1.81	-0.10	-5.2%
7	Redwood City/Menlo Park	1.91	2.05	1.97	1.80	-0.17	-8.5%
8	Palo Alto/Los Altos	1.81	1.88	1.84	1.77	-0.07	-3.9%
9	Sunnyvale/Mountain View	1.75	1.79	1.70	1.65	-0.05	-3.0%
10	Saratoga/Cupertino	1.95	2.02	2.03	2.00	-0.03	-1.5%
11	Central San Jose	1.78	1.78	1.71	1.61	-0.10	-6.1%
12	Milpitas/East San Jose	2.26	2.31	2.28	2.22	-0.06	-2.5%
13	South San Jose/Almaden	2.11	2.19	2.18	2.14	-0.04	-1.8%
14	Gilroy/Morgan Hill	2.15	2.23	2.26	2.23	-0.03	-1.4%
15	Livermore/Pleasanton	2.04	2.10	2.11	1.76	-0.35	-16.8%
16	Fremont/Union City	2.06	2.13	2.10	1.96	-0.13	-6.4%
17	Hayward/San Leandro	1.82	1.85	1.84	1.81	-0.04	-2.0%
18	Oakland/Alameda	1.39	1.39	1.34	1.26	-0.07	-5.6%
19	Berkeley/Albany	1.34	1.35	1.37	1.32	-0.05	-3.6%
20	Richmond/El Cerrito	1.71	1.73	1.79	1.69	-0.10	-5.7%
21	Concord/Martinez	1.85	1.86	1.89	1.83	-0.06	-3.4%
22	Walnut Creek/Lamorinda	1.80	1.84	1.82	1.69	-0.12	-6.8%
23	Danville/San Ramon	2.14	2.19	2.06	1.88	-0.18	-8.9%
24	Antioch/Pittsburg	1.98	2.03	2.08	2.01	-0.07	-3.4%
25	Vallejo/Benicia	1.88	1.92	1.92	1.58	-0.34	-17.8%
26	Fairfield/Vacaville	1.98	2.02	2.06	1.95	-0.11	-5.3%
27	Napa	1.84	1.91	1.97	1.74	-0.23	-11.6%
28	St. Helena/Calistoga	1.92	2.03	2.10	2.02	-0.08	-3.6%
29	Petaluma/Sonoma	1.92	2.03	2.11	2.02	-0.10	-4.5%
30	Santa Rosa/Sebastopol	1.85	1.91	2.00	1.85	-0.15	-7.6%
31	Healdsburg/Cloverdale	1.94	1.99	2.05	1.91	-0.14	-6.6%
32	Novato	1.89	1.90	1.98	1.90	-0.08	-4.0%
33	San Rafael	1.76	1.78	1.82	1.73	-0.09	-5.2%
34	Mill Valley/Sausalito	1.73	1.82	1.83	1.81	-0.02	-1.2%
	Bay Area	**1.75**	**1.81**	**1.80**	**1.69**	**-0.12**	**-6.5%**
	San Francisco	1.13	1.16	1.13	1.04	-0.09	-8.2%
	San Mateo	1.87	2.02	1.95	1.85	-0.10	-5.2%
	Santa Clara	1.96	2.01	1.96	1.89	-0.07	-3.7%
	Alameda	1.69	1.72	1.71	1.58	-0.13	-7.5%
	Contra Costa	1.87	1.90	1.93	1.81	-0.12	-6.2%
	Solano	1.94	1.98	2.01	1.78	-0.23	-11.4%
	Napa	1.87	1.95	2.00	1.82	-0.18	-9.2%
	Sonoma	1.89	1.97	2.05	1.92	-0.13	-6.4%
	Marin	1.78	1.82	1.86	1.80	-0.07	-3.5%

Table D-15: Compare Share of Zero-Vehicle of Total Households by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

		ABAG Projections 2003			*TRANSDEF*		*Percent*
	Superdistrict	*2000*	*2005*	*2030*	*2030*	*Difference*	*Difference*
1	Downtown San Francisco	58.9%	58.8%	58.0%	65.9%	7.8%	13.5%
2	Richmond District	23.4%	22.3%	23.5%	29.1%	5.7%	24.1%
3	Mission District	18.8%	18.0%	20.1%	22.8%	2.7%	13.7%
4	Sunset District	12.6%	12.2%	11.1%	11.1%	0.0%	-0.3%
5	Daly City/San Bruno	6.9%	4.5%	5.5%	6.3%	0.8%	14.9%
6	San Mateo/Burlingame	5.8%	3.9%	4.4%	6.3%	1.9%	43.7%
7	Redwood City/Menlo Park	6.2%	4.5%	5.8%	9.9%	4.2%	72.1%
8	Palo Alto/Los Altos	5.8%	5.0%	5.2%	7.1%	1.9%	36.4%
9	Sunnyvale/Mountain View	5.6%	5.3%	6.6%	7.7%	1.1%	17.2%
10	Saratoga/Cupertino	4.6%	3.9%	3.5%	4.1%	0.6%	16.4%
11	Central San Jose	9.3%	10.2%	12.5%	16.2%	3.7%	29.5%
12	Milpitas/East San Jose	5.5%	5.2%	5.5%	6.7%	1.2%	22.2%
13	South San Jose/Almaden	4.3%	3.5%	3.3%	4.1%	0.8%	26.0%
14	Gilroy/Morgan Hill	4.9%	4.1%	3.4%	4.3%	0.9%	27.8%
15	Livermore/Pleasanton	3.4%	2.7%	2.4%	10.6%	8.2%	333.5%
16	Fremont/Union City	4.7%	3.9%	4.4%	7.4%	3.0%	69.1%
17	Hayward/San Leandro	7.9%	7.8%	8.1%	9.2%	1.1%	13.1%
18	Oakland/Alameda	17.9%	18.7%	21.8%	25.3%	3.5%	15.8%
19	Berkeley/Albany	16.0%	16.0%	15.3%	17.9%	2.6%	17.1%
20	Richmond/El Cerrito	10.1%	10.0%	8.4%	11.6%	3.1%	37.1%
21	Concord/Martinez	6.8%	6.8%	6.1%	7.6%	1.5%	24.4%
22	Walnut Creek/Lamorinda	5.7%	5.4%	5.7%	9.6%	3.9%	69.3%
23	Danville/San Ramon	2.2%	2.0%	3.3%	10.3%	7.0%	209.9%
24	Antioch/Pittsburg	5.8%	5.2%	4.4%	5.6%	1.2%	26.7%
25	Vallejo/Benicia	7.8%	7.6%	8.0%	19.3%	11.3%	142.1%
26	Fairfield/Vacaville	5.6%	5.3%	4.7%	7.9%	3.2%	68.1%
27	Napa	6.6%	5.8%	4.9%	11.6%	6.7%	135.0%
28	St. Helena/Calistoga	4.5%	3.5%	2.6%	3.8%	1.1%	43.4%
29	Petaluma/Sonoma	5.6%	4.1%	2.7%	4.6%	2.0%	73.7%
30	Santa Rosa/Sebastopol	6.2%	5.4%	3.9%	9.1%	5.2%	135.7%
31	Healdsburg/Cloverdale	4.8%	4.3%	3.5%	5.9%	2.4%	69.1%
32	Novato	5.1%	4.9%	3.3%	4.7%	1.3%	39.6%
33	San Rafael	5.9%	5.7%	4.8%	7.1%	2.2%	46.6%
34	Mill Valley/Sausalito	4.1%	3.1%	2.7%	3.0%	0.3%	11.5%
	Bay Area	**10.0%**	**9.4%**	**9.8%**	**13.4%**	**3.6%**	**36.6%**
	San Francisco	27.6%	27.0%	28.4%	33.4%	5.0%	17.7%
	San Mateo	6.3%	4.3%	5.2%	7.5%	2.3%	42.9%
	Santa Clara	5.8%	5.5%	6.4%	8.2%	1.8%	28.3%
	Alameda	11.1%	11.0%	11.9%	15.7%	3.8%	31.9%
	Contra Costa	6.7%	6.4%	5.8%	8.9%	3.1%	54.4%
	Solano	6.5%	6.2%	5.8%	13.1%	7.3%	124.8%
	Napa	6.0%	5.1%	4.3%	9.4%	5.1%	117.8%
	Sonoma	5.7%	4.7%	3.4%	7.1%	3.7%	109.3%
	Marin	5.1%	4.6%	3.7%	5.1%	1.4%	37.5%

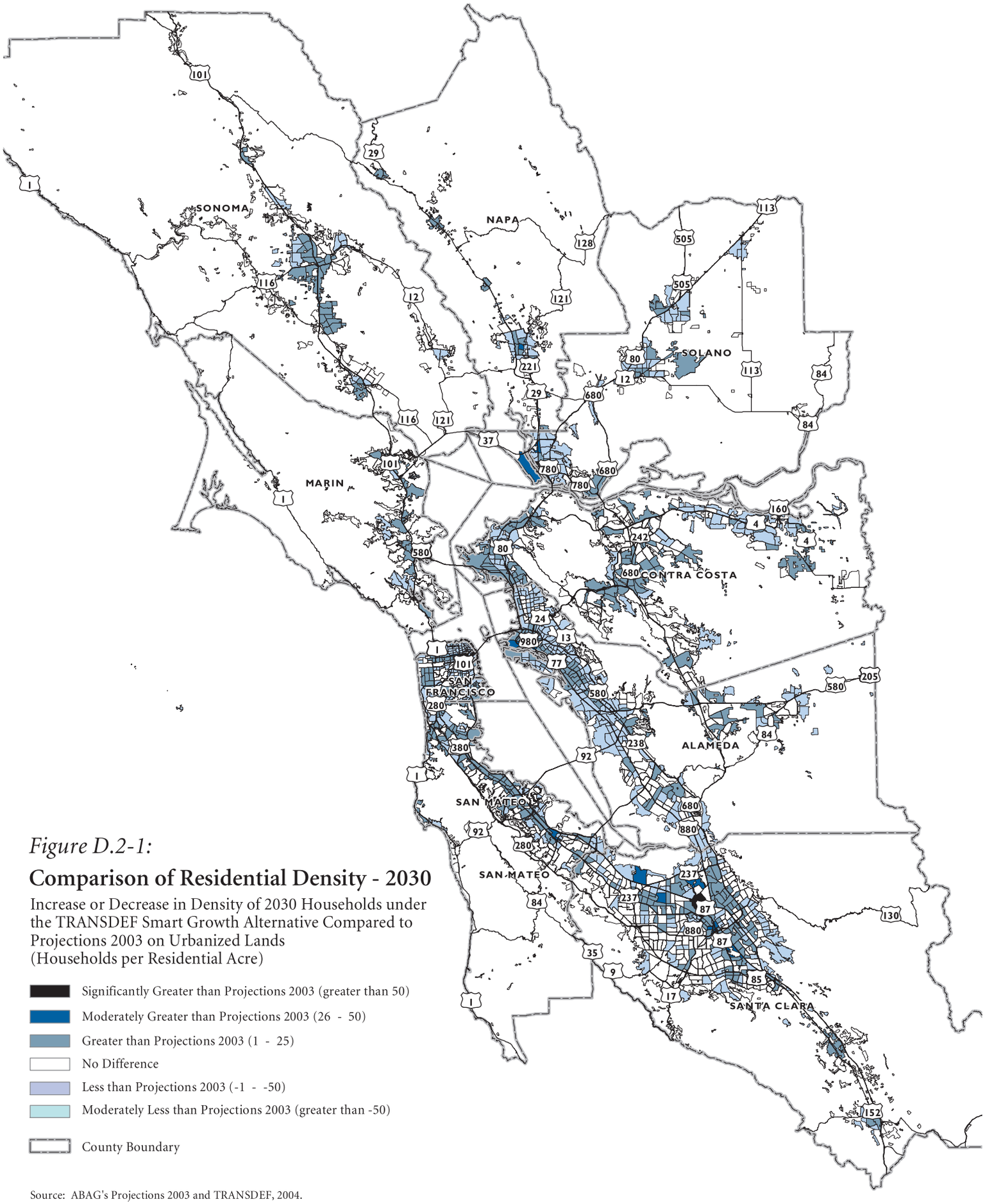

Figure D.2-1:

Comparison of Residential Density - 2030

Increase or Decrease in Density of 2030 Households under the TRANSDEF Smart Growth Alternative Compared to Projections 2003 on Urbanized Lands
(Households per Residential Acre)

- Significantly Greater than Projections 2003 (greater than 50)
- Moderately Greater than Projections 2003 (26 - 50)
- Greater than Projections 2003 (1 - 25)
- No Difference
- Less than Projections 2003 (-1 - -50)
- Moderately Less than Projections 2003 (greater than -50)
- County Boundary

Source: ABAG's Projections 2003 and TRANSDEF, 2004.

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MILES

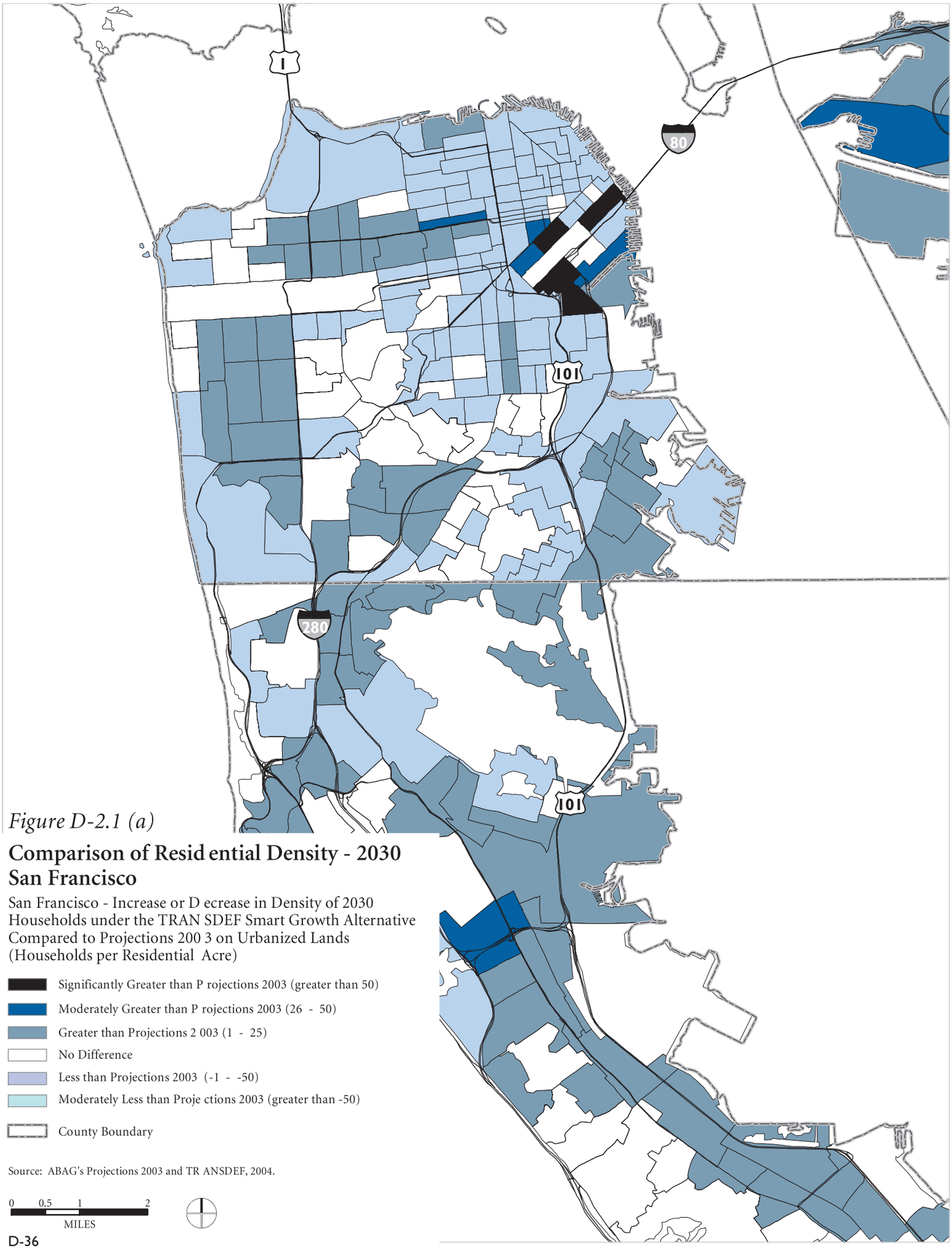

Figure D-2.1 (a)

Comparison of Resid ential Density - 2030 San Francisco

San Francisco - Increase or D ecrease in Density of 2030 Households under the TRAN SDEF Smart Growth Alternative Compared to Projections 200 3 on Urbanized Lands (Households per Residential Acre)

- Significantly Greater than P rojections 2003 (greater than 50)
- Moderately Greater than P rojections 2003 (26 - 50)
- Greater than Projections 2 003 (1 - 25)
- No Difference
- Less than Projections 2003 (-1 - -50)
- Moderately Less than Proje ctions 2003 (greater than -50)
- County Boundary

Source: ABAG's Projections 2003 and TR ANSDEF, 2004.

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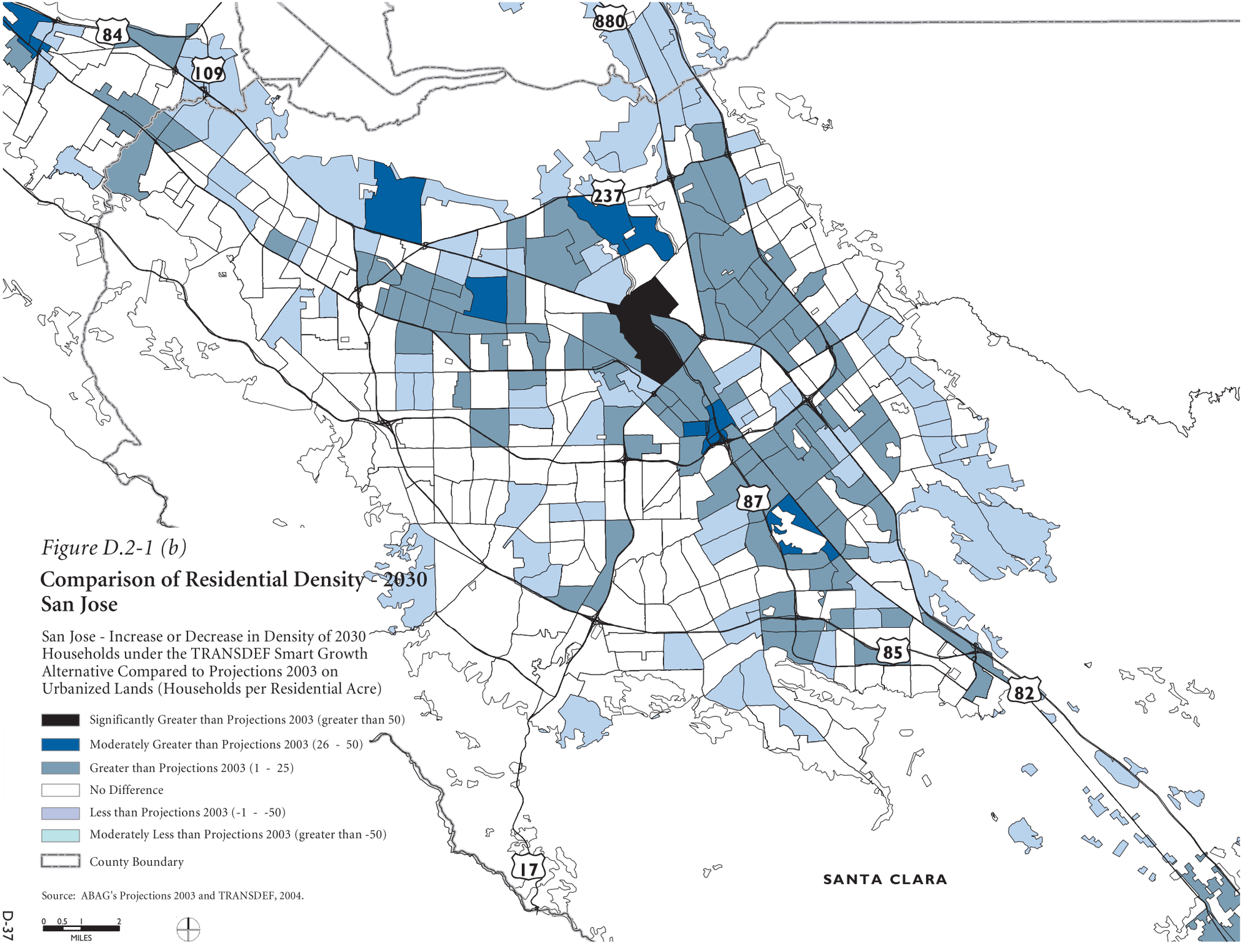

Figure D.2-1 (b)

Comparison of Residential Density - 2030
San Jose

San Jose - Increase or Decrease in Density of 2030 Households under the TRANSDEF Smart Growth Alternative Compared to Projections 2003 on Urbanized Lands (Households per Residential Acre)

- Significantly Greater than Projections 2003 (greater than 50)
- Moderately Greater than Projections 2003 (26 - 50)
- Greater than Projections 2003 (1 - 25)
- No Difference
- Less than Projections 2003 (-1 - -50)
- Moderately Less than Projections 2003 (greater than -50)
- County Boundary

Source: ABAG's Projections 2003 and TRANSDEF, 2004.

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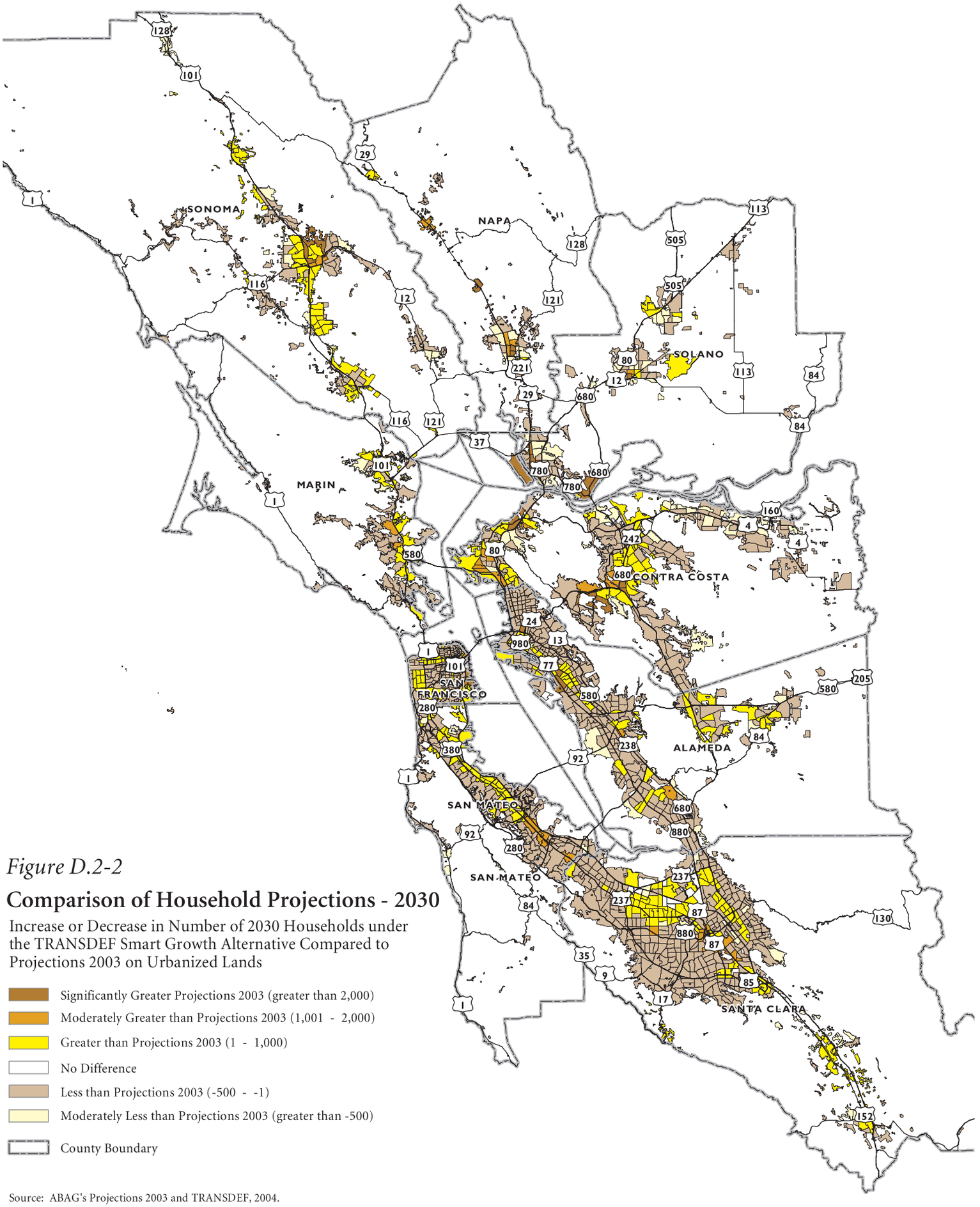

Figure D.2-2

Comparison of Household Projections - 2030

Increase or Decrease in Number of 2030 Households under the TRANSDEF Smart Growth Alternative Compared to Projections 2003 on Urbanized Lands

Source: ABAG's Projections 2003 and TRANSDEF, 2004.

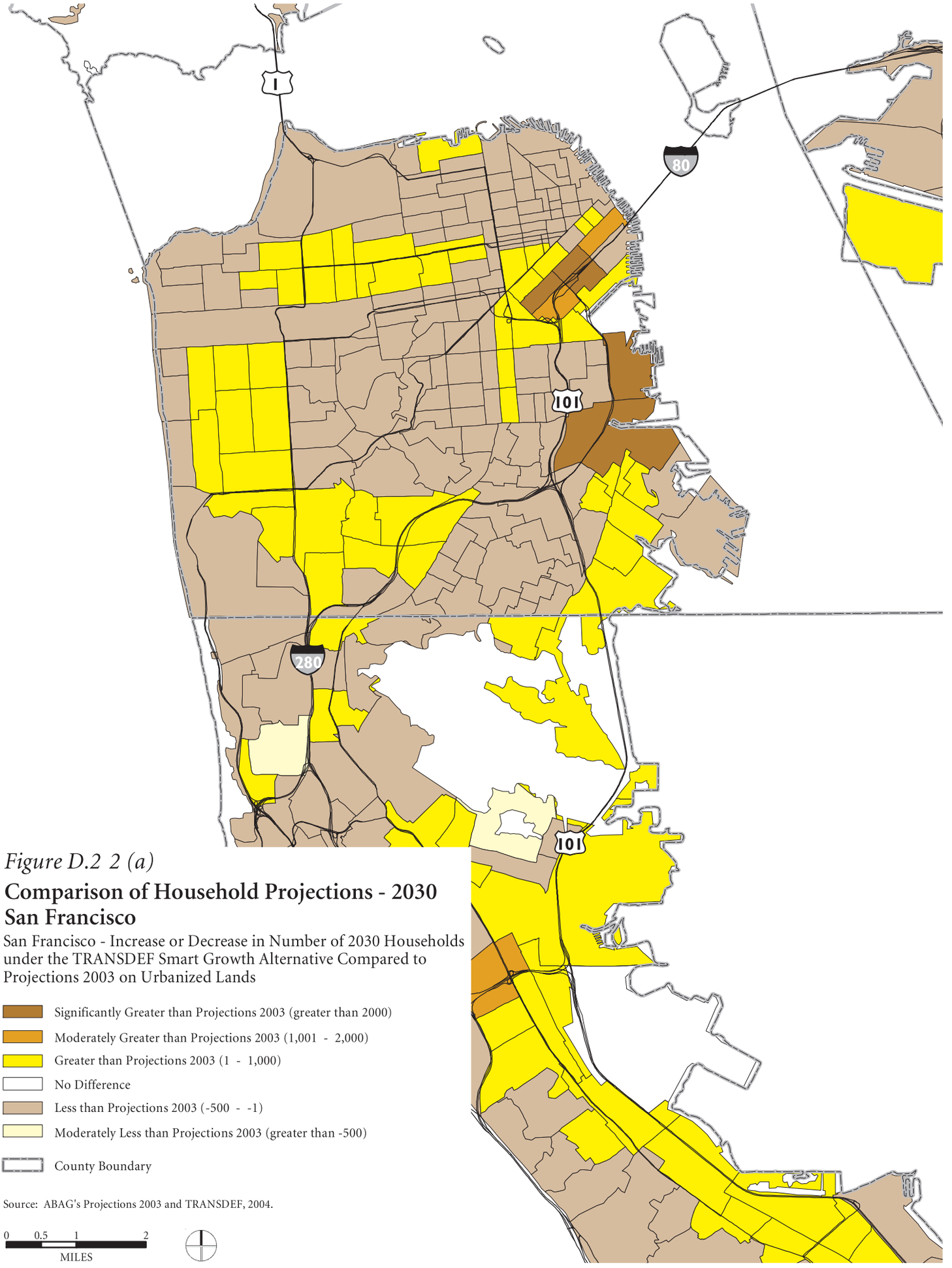

Figure D.2 2 (a)

Comparison of Household Projections - 2030 San Francisco

San Francisco - Increase or Decrease in Number of 2030 Households under the TRANSDEF Smart Growth Alternative Compared to Projections 2003 on Urbanized Lands

- Significantly Greater than Projections 2003 (greater than 2000)
- Moderately Greater than Projections 2003 (1,001 - 2,000)
- Greater than Projections 2003 (1 - 1,000)
- No Difference
- Less than Projections 2003 (-500 - -1)
- Moderately Less than Projections 2003 (greater than -500)
- County Boundary

Source: ABAG's Projections 2003 and TRANSDEF, 2004.

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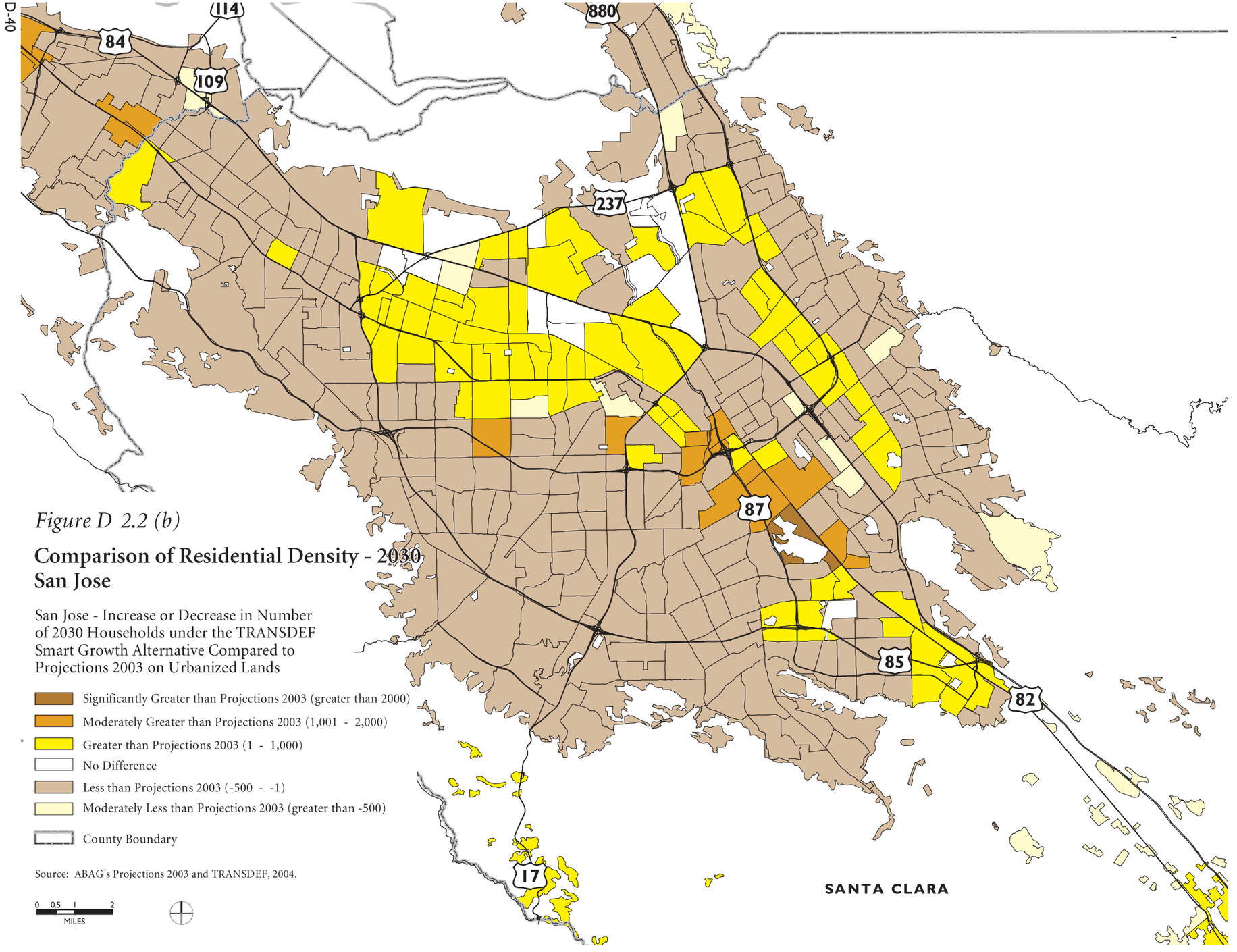

Figure D 2.2 (b)

Comparison of Residential Density - 2030 San Jose

San Jose - Increase or Decrease in Number of 2030 Households under the TRANSDEF Smart Growth Alternative Compared to Projections 2003 on Urbanized Lands

- Significantly Greater than Projections 2003 (greater than 2000)
- Moderately Greater than Projections 2003 (1,001 - 2,000)
- Greater than Projections 2003 (1 - 1,000)
- No Difference
- Less than Projections 2003 (-500 - -1)
- Moderately Less than Projections 2003 (greater than -500)
- County Boundary

Source: ABAG's Projections 2003 and TRANSDEF, 2004.

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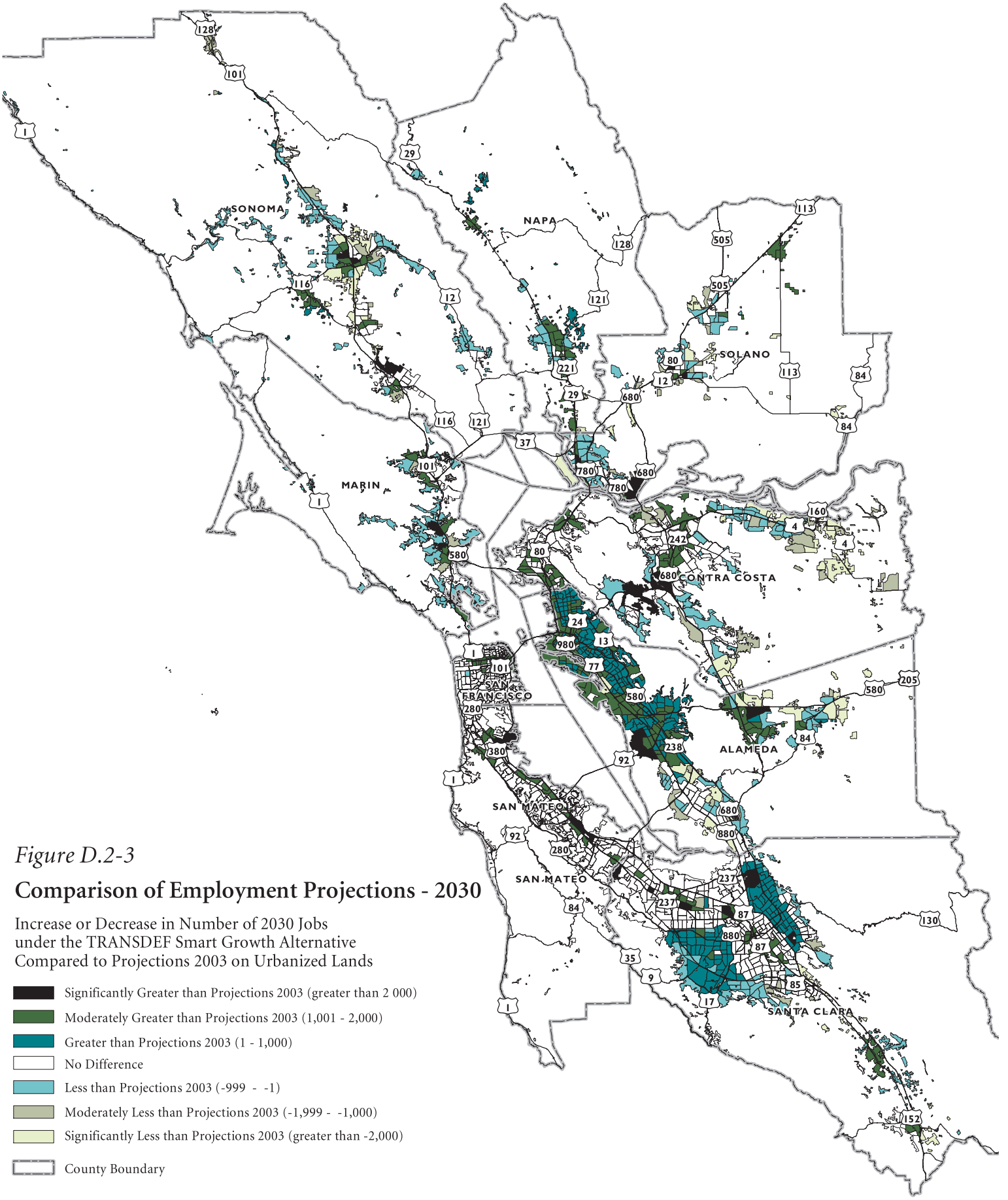

Figure D.2-3

Comparison of Employment Projections - 2030

Increase or Decrease in Number of 2030 Jobs
under the TRANSDEF Smart Growth Alternative
Compared to Projections 2003 on Urbanized Lands

- Significantly Greater than Projections 2003 (greater than 2 000)
- Moderately Greater than Projections 2003 (1,001 - 2,000)
- Greater than Projections 2003 (1 - 1,000)
- No Difference
- Less than Projections 2003 (-999 - -1)
- Moderately Less than Projections 2003 (-1,999 - -1,000)
- Significantly Less than Projections 2003 (greater than -2,000)
- County Boundary

Source: ABAG's Projections 2003 and TRANSDEF, 2004.

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MILES

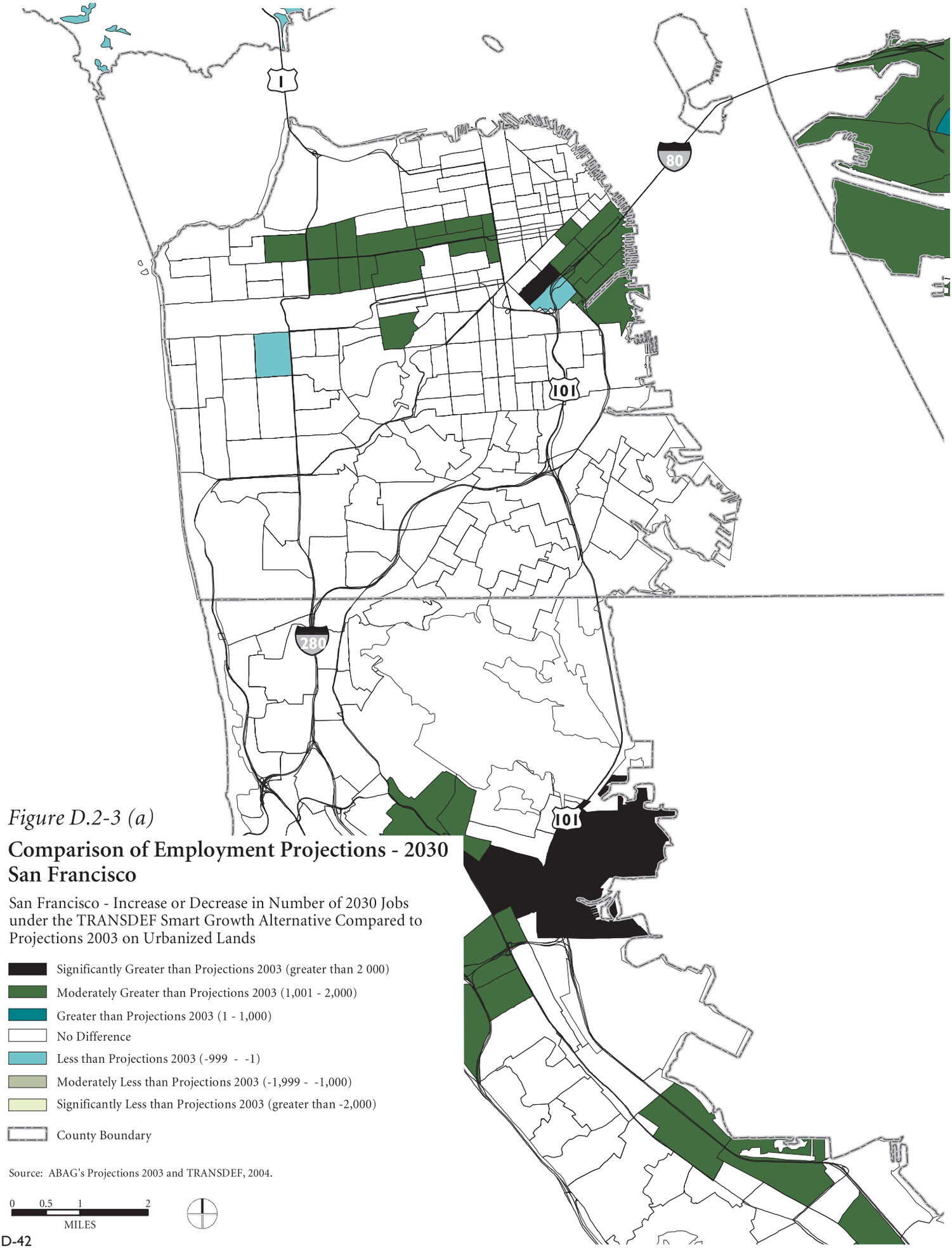

Figure D.2-3 (a)

Comparison of Employment Projections - 2030 San Francisco

San Francisco - Increase or Decrease in Number of 2030 Jobs under the TRANSDEF Smart Growth Alternative Compared to Projections 2003 on Urbanized Lands

- Significantly Greater than Projections 2003 (greater than 2 000)
- Moderately Greater than Projections 2003 (1,001 - 2,000)
- Greater than Projections 2003 (1 - 1,000)
- No Difference
- Less than Projections 2003 (-999 - -1)
- Moderately Less than Projections 2003 (-1,999 - -1,000)
- Significantly Less than Projections 2003 (greater than -2,000)
- County Boundary

Source: ABAG's Projections 2003 and TRANSDEF, 2004.

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MILES

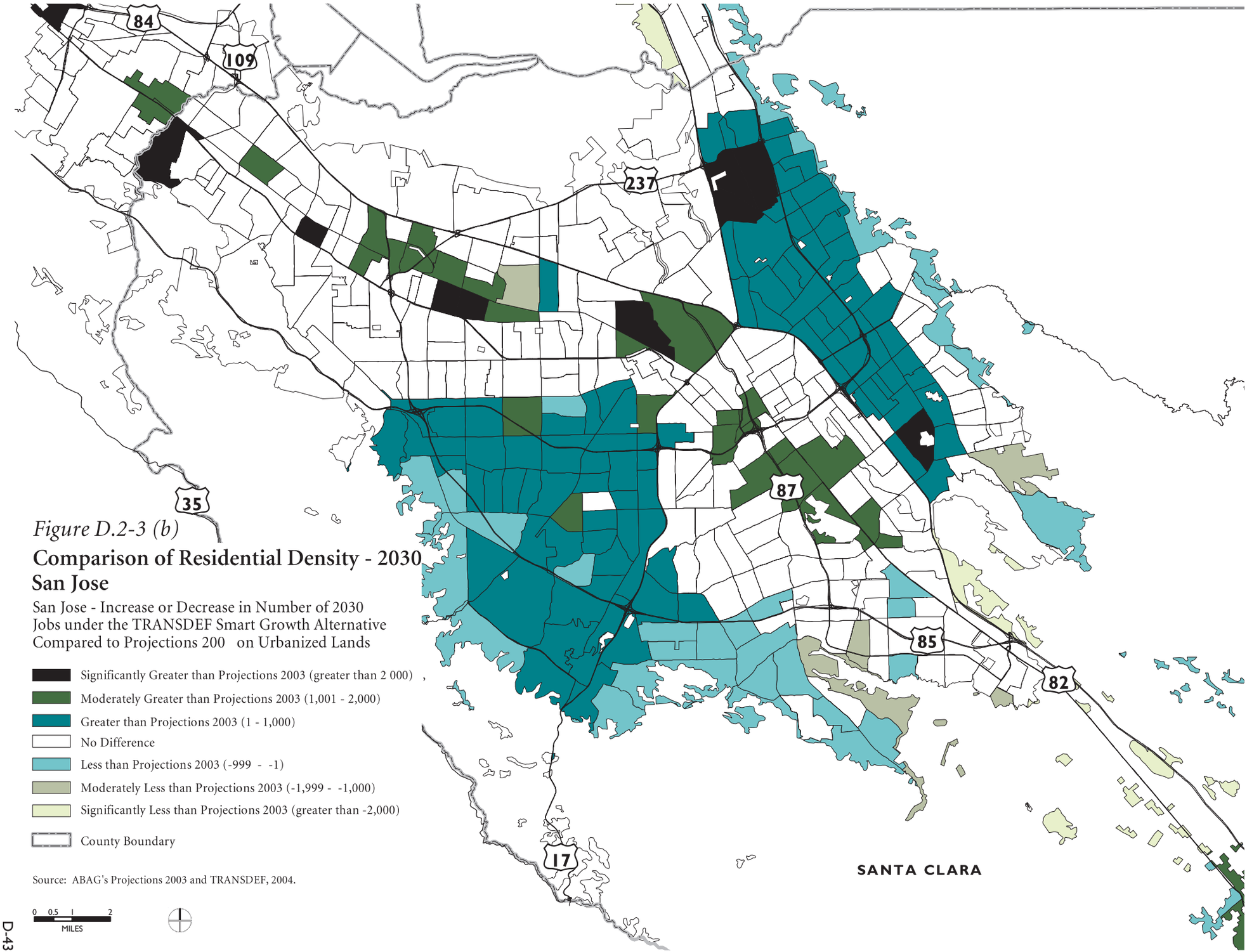

Figure D.2-3 (b)

Comparison of Residential Density - 2030
San Jose

San Jose - Increase or Decrease in Number of 2030 Jobs under the TRANSDEF Smart Growth Alternative Compared to Projections 200 on Urbanized Lands

- Significantly Greater than Projections 2003 (greater than 2 000)
- Moderately Greater than Projections 2003 (1,001 - 2,000)
- Greater than Projections 2003 (1 - 1,000)
- No Difference
- Less than Projections 2003 (-999 - -1)
- Moderately Less than Projections 2003 (-1,999 - -1,000)
- Significantly Less than Projections 2003 (greater than -2,000)
- County Boundary

Source: ABAG's Projections 2003 and TRANSDEF, 2004.

0 0.5 1 2
MILES

Appendix E:

Summary Comparison of Projections 2003 & Projections 2002

Appendix E: Projections 2003 vs. Projections 2002

The purpose of this appendix is to present additional detailed information on the differences between the population, employment and land use information used in the 2001 RTP EIR ("Projections 2002") and the information used in this EIR ("Projections 2003"). The Transportation 2030 Plan uses Projections 2003, developed by the Association of Bay Area Governments (ABAG), for transportation demand analysis, modeling and related impact analyses, which are presented in this EIR. ABAG's Projections 2003 (P-2003) is based on a very different set of policy assumptions than previous series of the long-run economic-demographic forecasts which ABAG has been producing since 1973. Unlike previous Projections, such as Projections 2002 (P-2002), which are based on adopted land use plans from cities, counties, and agencies in the region, P-2003 is based on the ABAG's Regional Smart Growth Strategy/Regional Livability Footprint Project, briefly described below.

SMART GROWTH STRATEGY/REGIONAL LIVABILITY FOOTPRINT PROJECT

The Smart Growth Strategy/Regional Livability Footprint Project was developed by ABAG along with its other regional agency partners (including MTC, BAAQMD, BCDC, and SF Bay RWQCB) and a group of stakeholders known as the Bay Area Alliance for Sustainable Development. According to ABAG, "Smart Growth can best be described as development that revitalizes central cities and older suburbs, supports and enhances public transit, promotes walking and bicycling opportunities, and preserves open spaces and agricultural lands" (ABAG, 2004). The Regional Smart Growth Vision was created out of a two-year effort to establish principles and strategies for how the nine-county Bay Area can grow smarter and become more sustainable over the next 20 years and beyond.[1] The objectives were to minimize sprawl, provide adequate and affordable housing, improve mobility, protect environmental quality and preserve open space. A related objective of the project and the land use projections that results from it was to guide infrastructure investment decisions being made by MTC and other regional agencies.

With these objectives in mind, ABAG incorporated the Vision into its economic-demographic and land use projections. As a result, P-2003 assigns growth potential to local jurisdictions following approximately the pattern that the Smart Growth Vision intended. While these projections do not meet the numerical goals of the Vision, they do reflect a change in the prevailing patterns of development. To realize the Vision represented by P-2003, local jurisdictions will need to make changes in their general plans and zoning ordinances to increase density on infill sites and to allow residential development on commercial and industrial sites, Also, State and regional agencies will need to provide incentives and financial support for housing and business development.

[1] For more information about ABAG's Smart Growth Vision, see http://www.abag.ca.gov/planning/smartgrowth/

PROJECTIONS 2003 VS. PROJECTIONS 2002

Previous Projections, such as P-2002, do not assume implementation of Smart Growth policies. As such, unlike P-2003, P-2002 does not assume that State, local, or regional policy makers would change land use policies or other types of funding decisions in a way that would affect regional development patterns. It also does not assume any incremental funding to promote housing development, or any policy that would substitute for that type of funding.

At a more quantitative level, ABAG's Regional Smart Growth policy assumptions result in a higher number of housing units produced than under previous forecasting assumptions. It is estimated that by the year 2030, extending the previous forecast of P-2002 by five years, the policies provide 126,350 incremental housing units above previous forecasts and an additional 350,000 residents. This housing is also expected to provide a home for 214,100 more employed residents than the P-2002 base case forecast. This increase in employed residents is significant when compared to the number of jobs in the region, as it gives a rough estimate of the net interregional commute.

It is important to note, however, that P-2003 shows almost 59,600 additional jobs, which runs counter to the objectives of the Smart Growth Vision because it would exacerbate the jobs/housing imbalance, resulting in longer commutes. However, the change in jobs is a result of the incremental construction activity in the forecast, and the employment generated to meet the needs for goods and services required by the additional 350,000 residents of the region. Incremental jobs tend to be distributed in proportion to construction activity and population changes.

Tables E-1 to E-4 compare population, employment, employed residents, and households for 2000 and 2025 in MTC's 34 superdistricts and in each of the nine counties for P-2202 and P-2003. The differences are highlighted in the following sections.

COUNTY-BY-COUNTY COMPARISONS

At the county level, the general pattern, comparing Projections 2003 to Projections 2002, is a decrease in the population and jobs in the North Bay counties, and increases in population, jobs, housing and workers in the central Bay Area. Santa Clara shows the largest numerical increase in population, jobs, housing and workers; followed by San Francisco and Alameda Counties. Contra Costa shows the least differences comparing Projections 2002 to Projections 2003.

The largest numerical decreases in population, jobs, housing and workers are in Sonoma County. Solano County shows slight decreases in population, housing and resident workers but a slight increase in the number of jobs. Napa County consistently shows the highest percentage decreases in population, jobs, housing, and workers.

The most significant differences are seen in projections for the City and County of San Francisco, which, under the assumptions of P-2003, is projected to absorb 74,574 more people (9.1 percent) and 32,838 more households (9.4 percent) by year 2025. That amounts to a population increase

of 151,600 and an increase in the number of households of 52,134 between 2000 and 2025; a rate of growth much higher than previously anticipated by P-2002.

The largest numerical decreases in population, jobs, housing and workers are in Sonoma County. Solano County shows a slightly lower rate in the growth of population, housing and resident workers but a slightly higher rate in the growth of the number of jobs. Napa County consistently shows the lowest rate of growth in population, jobs, housing, and workers.

SUPERDISTRICT-LEVEL COMPARISONS

Three sub-county superdistricts show the most significant increase in population, workers and households:

- San Francisco Mission District, which gains 16.1 percent population in Projections 2003 relative to P-2002;
- Central San Jose, which gains 16.0 percent population in P-2003 relative to P-2002; and
- Oakland/Alameda which adds 9.4 percent population in P-2003 relative to P-2002.

The most significant decrease in population, workers and households relative to P-2002 is in Northern Solano County (superdistrict #26).

The four districts with the greatest increase in total jobs, P-2003 relative to P- 2002, are:

- Central San Jose (+30,600 jobs);
- Greater Downtown San Francisco (+15,400 jobs);
- Hayward/San Leandro (+9,900 jobs); and
- Fremont/Union City (+9,100 jobs).

The districts with the largest decrease in total jobs relative to P-2002 are:

- Gilroy/Morgan Hill (-7,000 jobs);
- Central Marin (-6,100 jobs); and
- Southern San Mateo County (-5,800 jobs).

ZONE-LEVEL COMPARISONS

Of MTC's 1,454 regional travel analysis zones, 446 zones show lower population growth (from P-2002 to P-2003), 13 zones show no change in total population, and 995 zones show an increase in total population growth. A listing of the top twenty and bottom twenty zones in terms of difference in total population, P-2003 less P-2002, is shown in Table E-5. The top zones in terms of reduced population growth are in north Fairfield and Dougherty Valley. The top zones in terms of increased population growth are in Coyote Valley, one of our Golden Triangle zones in Silicon Valley, and a zone in south central San Jose.

Turning to job growth, 543 zones show reduced total employment growth (from P-2002 to P-2003), 7 zones show no change in total employment, and 904 zones show an increase in total employment growth. Table E-6 shows the top twenty and bottom twenty zones in terms of difference in total employment. The top zones in terms of reduced employment growth are the Mountain View Shoreline area (including Moffett Field); the Stanford Industrial Park and the Hacienda Business Park. The top zones in terms of increased employment growth are the Lockheed – Sunnyvale Bayside neighborhood along the Tasman LRT line; one of the San Jose Central Business District (CBD) zones; and a south central San Jose zone.

Table 1: Compare Total Population by MTC 34 Superdistrict & County, 2025
ABAG Projections 2003 compared to Projections 2002

	Superdistrict	*2000*	*P-2002 2025*	*P-2003 2025*	*Difference P-03 – P-02*	*% Difference P03 - P02*
1	Downtown San Francisco	125,742	139,041	152,599	152,599	109.8%
2	Richmond District	206,546	213,995	219,161	219,161	102.4%
3	Mission District	312,465	326,581	379,303	379,303	116.1%
4	Sunset District	131,980	135,582	138,710	138,710	102.3%
5	Daly City/San Bruno	287,439	322,479	333,043	10,564	3.3%
6	San Mateo/Burlingame	201,522	237,819	235,927	-1,892	-0.8%
7	Redwood City/Menlo Park	218,202	253,002	265,453	12,451	4.9%
8	Palo Alto/Los Altos	168,940	190,322	195,639	5,317	2.8%
9	Sunnyvale/Mountain View	225,943	282,614	309,078	26,464	9.4%
10	Saratoga/Cupertino	309,254	352,993	348,417	-4,576	-1.3%
11	Central San Jose	284,443	379,201	439,905	60,704	16.0%
12	Milpitas/East San Jose	381,056	461,982	493,082	31,100	6.7%
13	South San Jose/Almaden	215,121	247,350	245,937	-1,413	-0.6%
14	Gilroy/Morgan Hill	97,828	149,737	143,709	-6,028	-4.0%
15	Livermore/Pleasanton	171,652	265,178	266,314	1,136	0.4%
16	Fremont/Union City	311,764	370,158	386,957	16,799	4.5%
17	Hayward/San Leandro	351,568	396,672	410,183	13,511	3.4%
18	Oakland/Alameda	454,351	506,115	553,493	47,378	9.4%
19	Berkeley/Albany	154,406	176,078	178,831	2,753	1.6%
20	Richmond/El Cerrito	242,439	272,177	290,892	18,715	6.9%
21	Concord/Martinez	221,068	265,632	271,575	5,943	2.2%
22	Walnut Creek/Lamorinda	139,416	163,524	161,288	-2,236	-1.4%
23	Danville/San Ramon	114,919	165,398	158,630	-6,768	-4.1%
24	Antioch/Pittsburg	230,974	343,169	334,006	-9,163	-2.7%
25	Vallejo/Benicia	146,849	177,609	186,279	8,670	4.9%
26	Fairfield/Vacaville	247,693	393,691	370,908	-22,783	-5.8%
27	Napa	87,085	117,144	110,464	-6,680	-5.7%
28	St. Helena/Calistoga	37,194	47,256	40,940	-6,316	-13.4%
29	Petaluma/Sonoma	160,818	199,047	188,724	-10,323	-5.2%
30	Santa Rosa/Sebastopol	219,409	282,096	270,298	-11,798	-4.2%
31	Healdsburg/Cloverdale	78,387	108,657	98,483	-10,174	-9.4%
32	Novato	54,506	67,479	67,568	89	0.1%
33	San Rafael	103,658	117,028	113,879	-3,149	-2.7%
34	Mill Valley/Sausalito	89,125	96,933	98,191	1,258	1.3%
	Bay Area	6,783,762	8,223,739	8,457,866	234,127	2.8%
	San Francisco	776,733	815,199	889,773	74,574	9.1%
	San Mateo	707,163	813,300	834,423	21,123	2.6%
	Santa Clara	1,682,585	2,064,199	2,175,767	111,568	5.4%
	Alameda	1,443,741	1,714,201	1,795,778	81,577	4.8%
	Contra Costa	948,816	1,209,900	1,216,391	6,491	0.5%
	Solano	394,542	571,300	557,187	-14,113	-2.5%
	Napa	124,279	164,400	151,404	-12,996	-7.9%
	Sonoma	458,614	589,800	557,505	-32,295	-5.5%
	Marin	247,289	281,440	279,638	-1,802	-0.6%

Table 2: Total Employment by MTC 34 Superdistrict & County, 2025 ABAG Projections 2003 compared to Projections 2002

	Superdistrict	*2000*	*P-2002 2025*	*P-2003 2025*	*Difference P-03 – P-02*	*% Difference P-03 – P-02*
1	Downtown San Francisco	386,582	459,574	474,992	15,418	3.4%
2	Richmond District	81,534	97,975	98,141	166	0.2%
3	Mission District	138,115	179,811	178,851	-960	-0.5%
4	Sunset District	28,216	33,152	34,063	911	2.7%
5	Daly City/San Bruno	163,295	208,005	215,917	7,912	3.8%
6	San Mateo/Burlingame	111,981	138,551	140,860	2,309	1.7%
7	Redwood City/Menlo Park	120,629	155,434	149,678	-5,756	-3.7%
8	Palo Alto/Los Altos	179,489	199,978	200,189	211	0.1%
9	Sunnyvale/Mountain View	372,465	466,237	460,962	-5,275	-1.1%
10	Saratoga/Cupertino	145,643	183,096	178,214	-4,882	-2.7%
11	Central San Jose	161,034	203,974	234,557	30,583	15.0%
12	Milpitas/East San Jose	120,309	160,685	164,596	3,911	2.4%
13	South San Jose/Almaden	71,208	89,363	94,778	5,415	6.1%
14	Gilroy/Morgan Hill	42,200	92,490	85,508	-6,982	-7.5%
15	Livermore/Pleasanton	119,075	192,821	188,875	-3,946	-2.0%
16	Fremont/Union City	145,557	206,084	215,201	9,117	4.4%
17	Hayward/San Leandro	163,593	200,572	210,460	9,888	4.9%
18	Oakland/Alameda	216,170	287,537	291,806	4,269	1.5%
19	Berkeley/Albany	107,279	127,175	122,270	-4,905	-3.9%
20	Richmond/El Cerrito	76,291	100,545	104,419	3,874	3.9%
21	Concord/Martinez	104,518	133,920	136,454	2,534	1.9%
22	Walnut Creek/Lamorinda	82,823	99,730	96,279	-3,451	-3.5%
23	Danville/San Ramon	53,803	79,013	79,334	321	0.4%
24	Antioch/Pittsburg	43,670	82,273	88,963	6,690	8.1%
25	Vallejo/Benicia	43,881	63,355	66,482	3,127	4.9%
26	Fairfield/Vacaville	79,330	123,934	121,953	-1,981	-1.6%
27	Napa	41,453	64,749	60,302	-4,447	-6.9%
28	St. Helena/Calistoga	25,381	28,300	26,774	-1,526	-5.4%
29	Petaluma/Sonoma	61,085	94,511	94,748	237	0.3%
30	Santa Rosa/Sebastopol	123,534	182,110	179,595	-2,515	-1.4%
31	Healdsburg/Cloverdale	20,602	34,382	29,360	-5,022	-14.6%
32	Novato	27,878	44,780	43,864	-916	-2.0%
33	San Rafael	52,911	68,529	62,457	-6,072	-8.9%
34	Mill Valley/Sausalito	42,175	49,964	51,911	1,947	3.9%
	Bay Area	3,753,709	4,932,591	4,982,813	50,222	1.0%
	San Francisco	634,447	770,512	786,047	15,535	2.0%
	San Mateo	395,905	501,990	506,455	4,465	0.9%
	Santa Clara	1,092,348	1,395,823	1,418,804	22,981	1.6%
	Alameda	751,674	1,014,189	1,028,612	14,423	1.4%
	Contra Costa	361,105	495,481	505,449	9,968	2.0%
	Solano	123,211	187,289	188,435	1,146	0.6%
	Napa	66,834	93,049	87,076	-5,973	-6.4%
	Sonoma	205,221	311,003	303,703	-7,300	-2.3%
	Marin	122,964	163,273	158,232	-5,041	-3.1%

Table 3: Employed Residents by MTC 34 Superdistrict & County, 2025 ABAG Projections 2003 compared to Projections 2002

	Superdistrict	*2000 P-2002*	*2025 P-2003*	*2025 Difference*	*P-03 – P-02 % Difference*	*P-03 - P02*
1	Downtown San Francisco	73,148	82,162	91,583	9,421	11.5%
2	Richmond District	134,084	140,604	146,156	5,552	3.9%
3	Mission District	167,499	178,038	205,791	27,753	15.6%
4	Sunset District	70,119	72,898	75,771	2,873	3.9%
5	Daly City/San Bruno	160,520	183,236	189,284	6,048	3.3%
6	San Mateo/Burlingame	121,582	145,539	144,638	-901	-0.6%
7	Redwood City/Menlo Park	120,981	142,115	149,383	7,268	5.1%
8	Palo Alto/Los Altos	102,012	116,212	121,808	5,596	4.8%
9	Sunnyvale/Mountain View	143,369	177,911	195,160	17,249	9.7%
10	Saratoga/Cupertino	187,688	216,756	214,532	-2,224	-1.0%
11	Central San Jose	147,350	199,292	233,432	34,140	17.1%
12	Milpitas/East San Jose	195,876	244,257	259,651	15,394	6.3%
13	South San Jose/Almaden	132,357	154,392	154,026	-366	-0.2%
14	Gilroy/Morgan Hill	50,419	78,080	75,391	-2,689	-3.4%
15	Livermore/Pleasanton	91,144	162,464	161,842	-622	-0.4%
16	Fremont/Union City	163,435	221,610	228,837	7,227	3.3%
17	Hayward/San Leandro	167,848	216,587	223,239	6,652	3.1%
18	Oakland/Alameda	193,156	241,343	283,536	42,193	17.5%
19	Berkeley/Albany	82,299	104,697	109,950	5,253	5.0%
20	Richmond/El Cerrito	115,013	141,906	152,153	10,247	7.2%
21	Concord/Martinez	123,127	161,321	165,715	4,394	2.7%
22	Walnut Creek/Lamorinda	72,220	93,386	91,806	-1,580	-1.7%
23	Danville/San Ramon	64,440	103,428	99,191	-4,237	-4.1%
24	Antioch/Pittsburg	109,098	177,459	172,858	-4,601	-2.6%
25	Vallejo/Benicia	67,583	95,702	99,270	3,568	3.7%
26	Fairfield/Vacaville	111,934	206,498	195,329	-11,169	-5.4%
27	Napa	46,778	62,927	59,746	-3,181	-5.1%
28	St. Helena/Calistoga	20,333	25,873	22,054	-3,819	-14.8%
29	Petaluma/Sonoma	83,406	114,185	106,921	-7,264	-6.4%
30	Santa Rosa/Sebastopol	108,429	152,524	146,516	-6,008	-3.9%
31	Healdsburg/Cloverdale	37,472	56,491	51,064	-5,427	-9.6%
32	Novato	32,043	40,733	40,773	40	0.1%
33	San Rafael	58,564	67,914	65,925	-1,989	-2.9%
34	Mill Valley/Sausalito	50,348	56,553	57,199	646	1.1%
	Bay Area	3,605,674	4,635,093	4,790,530	155,437	3.4%
	San Francisco	444,850	473,702	519,301	45,599	9.6%
	San Mateo	403,083	470,890	483,305	12,415	2.6%
	Santa Clara	959,071	1,186,900	1,254,000	67,100	5.7%
	Alameda	697,882	946,701	1,007,404	60,703	6.4%
	Contra Costa	483,898	677,500	681,723	4,223	0.6%
	Solano	179,517	302,200	294,599	-7,601	-2.5%
	Napa	67,111	88,800	81,800	-7,000	-7.9%
	Sonoma	229,307	323,200	304,501	-18,699	-5.8%
	Marin	140,955	165,200	163,897	-1,303	-0.8%

Table 4: Total Households by MTC 34 Superdistrict & County, 2025 ABAG Projections 2003 compared to Projections 2002

	Superdistrict	*2000*	*P-2002 2025*	*P-2003 2025*	*Difference P-03 – P-02*	*% Difference P-03 – P-02*
1	Downtown San Francisco	68,139	75,010	84,571	9,561	12.7%
2	Richmond District	102,163	106,289	109,419	3,130	2.9%
3	Mission District	110,434	117,143	135,868	18,725	16.0%
4	Sunset District	48,961	50,551	51,973	1,422	2.8%
5	Daly City/San Bruno	96,371	106,687	110,648	3,961	3.7%
6	San Mateo/Burlingame	80,400	93,749	93,135	-614	-0.7%
7	Redwood City/Menlo Park	77,333	88,484	92,732	4,248	4.8%
8	Palo Alto/Los Altos	68,068	75,091	80,133	5,042	6.7%
9	Sunnyvale/Mountain View	88,679	110,664	122,652	11,988	10.8%
10	Saratoga/Cupertino	116,842	133,646	132,479	-1,167	-0.9%
11	Central San Jose	92,049	124,096	142,467	18,371	14.8%
12	Milpitas/East San Jose	99,420	123,694	130,153	6,459	5.2%
13	South San Jose/Almaden	71,320	82,775	81,847	-928	-1.1%
14	Gilroy/Morgan Hill	29,484	45,200	43,593	-1,607	-3.6%
15	Livermore/Pleasanton	60,487	93,257	93,440	183	0.2%
16	Fremont/Union City	99,510	115,867	120,541	4,674	4.0%
17	Hayward/San Leandro	122,610	135,797	140,772	4,975	3.7%
18	Oakland/Alameda	172,049	189,836	208,910	19,074	10.0%
19	Berkeley/Albany	68,709	76,921	78,539	1,618	2.1%
20	Richmond/El Cerrito	85,492	97,457	103,863	6,406	6.6%
21	Concord/Martinez	83,827	101,635	103,754	2,119	2.1%
22	Walnut Creek/Lamorinda	59,110	70,324	69,559	-765	-1.1%
23	Danville/San Ramon	41,471	59,626	58,721	-905	-1.5%
24	Antioch/Pittsburg	74,229	114,468	109,012	-5,456	-4.8%
25	Vallejo/Benicia	50,961	62,362	64,717	2,355	3.8%
26	Fairfield/Vacaville	79,442	128,968	121,734	-7,234	-5.6%
27	Napa	31,209	43,007	40,554	-2,453	-5.7%
28	St. Helena/Calistoga	14,193	18,443	15,837	-2,606	-14.1%
29	Petaluma/Sonoma	60,448	74,834	71,402	-3,432	-4.6%
30	Santa Rosa/Sebastopol	82,438	106,350	101,621	-4,729	-4.4%
31	Healdsburg/Cloverdale	29,517	41,226	36,978	-4,248	-10.3%
32	Novato	21,176	26,231	26,251	20	0.1%
33	San Rafael	41,527	46,844	45,502	-1,342	-2.9%
34	Mill Valley/Sausalito	37,947	41,455	42,035	580	1.4%
	Bay Area	2,466,015	2,977,987	3,065,412	87,425	2.9%
	San Francisco	329,697	348,993	381,831	32,838	9.4%
	San Mateo	254,104	288,920	296,515	7,595	2.6%
	Santa Clara	565,862	695,166	733,324	38,158	5.5%
	Alameda	523,365	611,678	642,202	30,524	5.0%
	Contra Costa	344,129	443,510	444,909	1,399	0.3%
	Solano	130,403	191,330	186,451	-4,879	-2.6%
	Napa	45,402	61,450	56,391	-5,059	-8.2%
	Sonoma	172,403	222,410	210,001	-12,409	-5.6%
	Marin	100,650	114,530	113,788	-742	-0.6%

Table 5: Largest Differences in Total Population, Projections 2003 vs Projections 2002
Top 20 / Bottom 20 MTC Travel Analysis Zones (1454 Zone System)

Rank	*TAZ1454*	*Description*	*County*	*Year 2000*	*Year 2025, Proj 2002*	*Year 2025, Proj 2003*	*Population Difference*
1	1270	North Fairfield	Solano	9,746	24,998	16,834	-8,164
2	1176	Dougherty Valley	Contra Costa	16,151	37,313	29,214	-8,099
3	1248	West Fairfield	Solano	5,204	14,686	8,821	-5,865
4	1178	Brentwood	Contra Costa	21,608	45,320	39,532	-5,788
5	729	North Livermore	Alameda	465	13,703	8,245	-5,458
6	1290	Rio Vista	Solano	5,733	24,604	19,294	-5,310
7	1177	Byron	Contra Costa	10,882	20,045	14,989	-5,056
8	720	North Livermore	Alameda	3,481	16,776	11,745	-5,031
9	1279	North Vacaville	Solano	3,451	10,996	6,501	-4,495
10	607	Milpitas	Santa Clara	4,382	14,542	10,064	-4,478
11	1238	Mare Island	Solano	149	7,380	3,143	-4,237
12	710	Gilroy	Santa Clara	5,302	11,136	7,099	-4,037
13	1271	Vacaville	Solano	11,959	21,289	17,313	-3,976
14	1348	South Santa Rosa	Sonoma	7,939	13,314	9,633	-3,681
15	297	Half Moon Bay	San Mateo	4,783	8,839	5,570	-3,269
16	436	Santa Clara	Santa Clara	3,627	7,632	4,414	-3,218
17	1286	Green Valley	Solano	4,206	10,021	6,813	-3,208
18	1297	North Napa	Napa	7,970	13,034	10,040	-2,994
19	1181	Bethel Island	Contra Costa	3,355	8,590	5,640	-2,950
20	712	North Gilroy	Santa Clara	4,293	7,969	5,081	-2,888
1435	578	Central San Jose	Santa Clara	9,263	10,405	12,878	2,473
1436	109	South of Market	San Francisco	506	2,374	4,864	2,490
1437	562	Central San Jose	Santa Clara	4,980	5,933	8,513	2,580
1438	553	Central San Jose	Santa Clara	4,392	7,267	9,861	2,594
1439	17	South of Market	San Francisco	4,126	6,237	8,918	2,681
1440	466	Santa Clara	Santa Clara	3,872	4,282	7,054	2,772
1441	113	Potrero Hill	San Francisco	5,140	5,320	8,202	2,882
1442	140	Bayview	San Francisco	4,028	4,174	7,076	2,902
1443	778	Central Fremont	Alameda	11,485	12,725	15,632	2,907
1444	730	Camp Parks	Alameda	7,600	11,302	14,530	3,228
1445	605	Berryessa	Santa Clara	9,271	10,306	13,613	3,307
1446	568	S. Central San Jose	Santa Clara	7,810	8,685	12,094	3,409
1447	139	Bayview	San Francisco	5,083	5,212	8,905	3,693
1448	435	North San Jose	Santa Clara	2,053	2,757	6,728	3,971
1449	875	Coliseum BART	Alameda	3,327	3,565	7,859	4,294
1450	142	Bayview	San Francisco	411	487	4,892	4,405
1451	410	Golden Triangle	Santa Clara	3,625	6,510	13,589	7,079
1452	563	S. Central San Jose	Santa Clara	8,153	9,437	18,816	9,379
1453	412	Golden Triangle	Santa Clara	5,914	13,285	22,714	9,429
1454	697	Coyote Valley	Santa Clara	1,783	1,963	14,708	12,745

Table 6: Largest Differences in Total Employment, Projections 2003 vs Projections 2002
Top 20 / Bottom 20 MTC Travel Analysis Zones (1454 Zone System)

Rank	*TAZ1454*	*Description*	*County*	*Year 2000*	*Year 2025, Proj 2002*	*Year 2025, Proj 2003*	*Employment Difference*
1	401	Mountain View Shoreline	Santa Clara	10,222	23,051	12,501	-10,550
2	354	Stanford Industrial	Santa Clara	14,035	20,084	14,649	-5,435
3	742	Hacienda Bus. Park	Alameda	19,435	31,959	27,585	-4,374
4	1292	American Canyon	Napa	5,109	14,989	10,919	-4,070
5	1252	Travis AFB	Solano	14,416	22,726	19,101	-3,625
6	111	East Portrero	San Francisco	6,889	14,874	11,672	-3,202
7	212	South SF	San Mateo	39,734	50,165	47,112	-3,053
8	1341	Rohnert Park	Sonoma	2,258	6,515	3,627	-2,888
9	1429	San Rafael	Marin	6,476	10,020	7,461	-2,559
10	84	Haight-Ashbury	San Francisco	1,262	4,052	1,533	-2,519
11	706	Gilroy	Santa Clara	3,020	9,963	7,539	-2,424
12	1397	Healdsburg	Sonoma	2,969	6,492	4,156	-2,336
13	1238	Mare Island	Solano	4,207	10,087	7,757	-2,330
14	991	West Berkeley	Alameda	18,590	23,820	21,560	-2,260
15	142	Bayview	San Francisco	24,229	29,900	27,645	-2,255
16	1122	Buchanan Field	Contra Costa	20,048	28,832	26,754	-2,078
17	432	Santa Clara	Santa Clara	22,226	28,316	26,326	-1,990
18	768	Newark	Alameda	4,784	8,485	6,520	-1,965
19	730	Camp Parks	Alameda	3,721	13,960	12,059	-1,901
20	964	Alameda West End	Alameda	378	5,330	3,460	-1,870
1435	1189	Antioch Industrial	Contra Costa	5,293	8,409	10,053	1,644
1436	1290	Rio Vista	Solano	2,601	3,766	5,488	1,722
1437	527	Tamien San Jose	Santa Clara	2,479	3,363	5,086	1,723
1438	1361	Downtown Santa Rosa	Sonoma	14,174	18,561	20,315	1,754
1439	234	San Bruno	San Mateo	6,363	8,661	10,436	1,775
1440	856	Bayfair San Leandro	Alameda	1,369	1,658	3,556	1,898
1441	9	Civic Center	San Francisco	12,490	12,871	14,801	1,930
1442	355	Stanford	Santa Clara	36,430	36,636	38,695	2,059
1443	718	East Livermore	Alameda	6,947	9,651	11,828	2,177
1444	1421	North San Rafael	Marin	7,196	6,375	8,572	2,197
1445	1179	Brentwood	Contra Costa	5,467	10,853	13,130	2,277
1446	5	Union Square	San Francisco	34,561	37,833	40,190	2,357
1447	12	South of Market	San Francisco	25,086	28,926	31,403	2,477
1448	1342	Rohnert Park	Sonoma	3,087	2,080	4,906	2,826
1449	407	Golden Triangle	Santa Clara	13,584	14,229	17,158	2,929
1450	801	Union City BART	Alameda	1,815	3,557	6,739	3,182
1451	539	W. Central San Jose	Santa Clara	8,374	10,190	13,684	3,494
1452	563	S. Central San Jose	Santa Clara	11,134	12,359	16,991	4,632
1453	558	San Jose CBD	Santa Clara	20,422	24,615	29,326	4,711
1454	402	Lockheed-Sunnyvale	Santa Clara	11,524	3,066	15,388	12,322

Appendix F:

Biological Resources Summary

Appendix F: Biological Resources Summary

BIOLOGICAL RESOURCES REGULATORY SETTING

FEDERAL REGULATIONS

National Environmental Policy Act

The National Environmental Policy Act of 1969 (NEPA) was one of the first laws to establish a broad national framework for protecting the environment. Its purposes include: "To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; [and] to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man." NEPA assures that all branches of government give proper consideration to the environment prior to undertaking major federal actions that could significantly affect the environment.

Environmental assessments (EAs) and environmental impact statements (EISs), which assess the likelihood of impacts from alternative courses of action, are required from all federal agencies and are the most visible NEPA requirements. The documents must include discussion of the environmental impacts of the alternatives, including the proposed action; any adverse environmental effects that cannot be avoided should the proposal be implemented; the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity; and any irreversible or irretrievable commitments of resources that would be involved in the proposal should it be implemented.

Federal Endangered Species Act

Under the Federal Endangered Species Act (FESA), the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered (16 United States Code [USC] 1533[c]). Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed or proposed species may be present in the project region, and whether the proposed project would result in a "take"[1] of such species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA, or result in

[1] "Take," as defined in Section 9 of the FESA, is broadly defined to include intentional or accidental "harassment" or "harm" to wildlife. "Harass" is further defined by the U.S. Fish and Wildlife Service as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, and sheltering. "Harm" is defined as an act which actually kills or injures wildlife. This may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3][4]). Project-related impacts to these species or their habitats would be considered significant in this EIR. The "take" prohibition of FESA applies to any action that would adversely affect a single member of an endangered or threatened species.

Proposed and Candidate Species for Listing as Endangered or Threatened

Proposed species are granted limited protection under FESA and must be addressed in Biological Assessments (under Section 7 of the act); proposed species otherwise have no protection from "take" under federal law, except emergency-listed species.2 Candidate species are afforded no protection under the act. The U.S. Fish and Wildlife Service (USFWS) typically reviews project plans and species information to determine the effects of federal actions on a proposed or candidate species. Any recommendations to modify or abandon the project and/or undertake protective measures for proposed or candidate species are not mandatory on the federal agency conferring with the USFWS. The USFWS recommends that candidate species and species proposed for listing also be considered in informal consultation during a project's environmental review. This is recommended because, in the event that a species were to be listed during the design or construction phases of a project (i.e., before occupancy), new studies and restrictions could be imposed.

Migratory Bird Treaty Act and Bald Eagle Protection Act

The federal Migratory Bird Treaty Act (16 USC, Section 703, Supplement I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

The federal Bald Eagle Protection Act prohibits persons within the United States (or other places subject to U.S. jurisdiction) from "possessing, selling, purchasing, offering to sell, transporting, exporting or importing any bald eagle or any golden eagle, alive or dead, or any part, nest or egg thereof."

Clean Water Act

The Clean Water Act is a 1977 amendment to the Federal Water Pollution Control Act of 1972, which set the basic structure for regulating discharges of pollutants to waters of the United States. Although the purpose of the act is primarily to maintain water quality for both human and environmental benefits, regulations developed pursuant to this act deal extensively with permitting of actions in wetlands. These regulations provide more specific protection for wetland habitats—most of which are important ecologically—than any other laws. The U.S. Environmental Protection Agency (EPA) has primary authority under the Clean Water Act to set

[2] Note, however, that protection from "take" begins at this stage under state law.

standards for water quality and for effluents, but the U.S. Army Corps of Engineers (Corps) has responsibility for permitting dredge and fill in wetlands.

Marine Protection, Research, and Sanctuaries Act of 1972

This legislation allowed for establishment of marine sanctuaries, such as the Monterey Bay National Marine Sanctuary (established in 1992) off the coast of the San Francisco Peninsula. This part of the act provides increased protection from a variety of human influences on the marine resources within the sanctuary. Among its important uses, the Monterey Bay National Marine Sanctuary provides an essential fishery, recreational opportunities, and habitat for a myriad of rare and common shorebirds, marine mammals, and other wildlife. Section 103 of this act regulates the transportation of dredged materials in ocean waters. This act is implemented through a permit granted by the Corps, which uses the EPA's ocean disposal criteria to regulate the disposal of dredged materials.

Rivers and Harbors Act of 1899

Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of any navigable water of the United States. Under this act, the Corps must authorize any excavation or deposition of materials into such waters, or for any work that could affect the course, location, condition, or capacity of such waters.

Coastal Zone Management Act of 1972

This act established the authority for creating coastal zone management areas and the California Coastal Commission. Coastal zone management criteria are established by the Commission and must be followed by federal, other government, or private entities performing any activities within the coastal zone.

FEDERAL AGENCIES RESPONSIBLE FOR MANAGING BIOLOGICAL RESOURCES

U.S. Fish and Wildlife Service

The mission of USFWS is to conserve, protect, and enhance the nation's fish and wildlife and their habitats for the continuing benefit of people. USFWS programs include management of wildlife sanctuaries, regulation of international and intrastate commerce related to wildlife, management of migratory species that move between states, wildlife management research, and identification and protection of endangered species.

State Regulations

California Environmental Quality Act

The intent of the California Environmental Quality Act (CEQA) is to maintain "high-quality ecological systems and the general welfare of the people of the state." It is the policy of the state to "prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and

wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history." CEQA forbids agencies from approving projects with significant adverse impacts when feasible alternatives or feasible mitigation measures can substantially lessen such impacts.3

CEQA directs each state agency to consult with the California Department of Fish and Game (CDFG) on any project an agency initiates that is not statutorily or categorically exempt from CEQA. CEQA Guidelines (Section 15065a) indicate that impacts to rare, threatened, or endangered plants or animals are significant. This finding of significance can be applied directly to state- and federally listed species. Impacts to other species that may generally meet these criteria but are not officially listed may be considered significant by the lead agency (for an EIR), depending on the applicability of other laws (e.g., Migratory Bird Treaty Act) and the discretion of the agency. The CDFG interprets Lists 1A, 1B, and 2 of the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California to consist of plants that, in a majority of cases, would qualify for listing as rare, threatened, or endangered. However, the determination of whether an impact is significant is a function of the lead agency, absent the protection of other laws. Projects subject to CEQA review must specifically address the potential impact of the listed species and provide mitigation measures, if the impact is significant.

California Endangered Species Act

Under the California Endangered Species Act (CESA), the CDFG has the responsibility for maintaining a list of threatened and endangered species (California Fish and Game Code 2070). The CDFG also maintains a list of "candidate species," which are species formally noticed as being under review for addition to either the list of endangered species or the list of threatened species. In addition, CDFG maintains lists of "species of special concern," which serve as "watch lists." Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species could be present on the project site and determine whether the proposed project could have a potentially significant impact on such species. In addition, the CDFG encourages informal consultation on any proposed project that may impact a candidate species. Project-related impacts to species on the CESA endangered or threatened lists would be considered significant in this EIR. Impacts to "species of concern" would be considered significant under certain circumstances, discussed below.

[3] CEQA also provides that a project might be approved in spite of residual, unmitigated significant impacts, by adoption of a statement of overriding social and economic considerations in situations where mitigations or alternatives are deemed infeasible.

California Native Plant Protection Act

State listing of plant species began in 1977 with the passage of the California Native Plant Protection Act (NPPA), which directed the CDFG to carry out the legislature's intent to "preserve, protect, and enhance endangered plants in this state." The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare and to require permits for collecting, transporting, or selling such plants. The California Endangered Species Act expanded upon the original NPPA and enhanced legal protection for plants. CESA established threatened and endangered species categories, and grandfathered all rare animals—but not rare plants—into the act as threatened species. Thus, there are three listing categories for plants in California: rare, threatened, and endangered.

California Coastal Act

The California Coastal Commission was established by voter initiative in 1972 (Proposition 20) and made permanent by the legislature in 1976. The mission of the Commission, as the lead agency responsible for carrying out California's coastal management program, is to plan for and regulate development in the coastal zone consistent with the policies of the California Coastal Act. The Commission is also one of two designated state coastal management agencies established for the purpose of administering the federal Coastal Zone Management Act in California. The Bay Conservation and Development Commission (BCDC) has authority over federal activities and federally licensed or assisted activities within San Francisco Bay, many of which are not otherwise subject to state control. The California Coastal Commission has the same authority over federal activities and federally licensed or assisted activities elsewhere in the California coastal zone.

The basic goals of the state for the coastal zone are to:

- Protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources;
- Assure orderly, balanced use and conservation of coastal zone resources, taking into account the social and economic needs of the people of the state;
- Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resource conservation principles and constitutionally protected rights of private property owners;
- Assure priority for coastal-dependent and coastal-related development over other development on the coast; and
- Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

State Agencies Responsible for Managing Biological Resources

California Department of Fish and Game

The mandate of CDFG is to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. In particular, CDFG is required under CESA, NPPA, CEQA, and the Natural Community Conservation Planning Act to conserve species through listing, habitat acquisition and protection, review of local land use planning, multi-species conservation planning, stewardship, recovery, research, and education.

California Coastal Commission

The coastal zone generally extends three miles seaward and about 1,000 yards inland. In particularly important and generally undeveloped areas where there can be considerable impact on the coastline from inland development, the coastal zone extends to a maximum of five miles inland from the mean high-tide line. In developed urban areas, the coastal zone extends substantially less than 1,000 yards inland. In order to carry out the policies of the Coastal Act, each of the 73 cities and counties in the coastal zone is required to prepare a local coastal program for the portion of its jurisdiction within the coastal zone and to submit the program to the Commission for certification. California Coastal Commission offices serving the Bay Area and central coast are located in San Francisco and Santa Cruz, respectively.

The California Coastal Commission manages protection of biological resources through a permitting process for all projects in the coastal zone. The Coastal Commission has unusually broad authority to regulate development in the coastal zone, and a permit is required for any project that might change the intensity of land use in the coastal zone. For example, a project that would require a building or grading permit from a city or county would also require a permit from the Coastal Commission. Other projects, such as major vegetation clearing or subdividing, would require a permit from the Commission. The Coastal Commission reviews applications before it to determine whether the project would substantially change any existing biological resources, including biodiversity, and to consider the net effects of the project on rare and endangered species.

California Department of Parks and Recreation

The California Department of Parks and Recreation provides sites for a variety of recreational and outdoor activities. Natural resource management and protection is also a part of the mission of Department. Park designations such as natural preserve, state park, state reserve, and state wilderness indicate that the area has outstanding natural features. By contrast, a designated state historic preserve, state recreation area, state beach, and state vehicular recreation area indicates the state has placed a higher priority on historic or recreational activities, although they may contain areas designated and protected for their natural features. State parks adjacent to transportation corridors include Olompali State Park and Marin Headlands State Park in Marin County, and the proposed Eastshore State Park between the Bay Bridge in Oakland to Marina Bay in Richmond in Alameda and Contra Costa Counties.

Biological Resources Protected by Statute and Policy

Special-Status Natural Communities

Special-status natural communities are identified as such by CDFG Natural Heritage Division. These communities include those that are both naturally rare and those that have been greatly diminished through changes in land use. The CDFG tracks 135 such natural communities in the same way that it tracks occurrences of special-status species: information is maintained on each site in terms of its location, extent, habitat quality, level of disturbance, and current protection measures. The CDFG is mandated to seek the long-term perpetuation of the areas in which these communities occur. In some cases, these areas have been established as protected reserves. There is no statewide law that requires protection of all special-status natural communities, but CEQA requires consideration of the potential impacts of a project to biological resources of statewide or regional significance.

Special-Status Plant and Wildlife Species

A number of species known to occur in the MTC region are accorded "special status" because of their recognized rarity or vulnerability to habitat loss or population decline. Some of these species are listed and receive specific protection defined in federal or state endangered species legislation. Other species have not been formally listed as threatened or endangered, but have been designated as "rare" or "sensitive" on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. These species are referred to collectively as "special-status species" following a convention that has developed in practice but has no official sanction. Special-status species in the MTC region are subject to the following:

- The California Native Plant Protection Act (California Fish and Game Code 1900 et seq.) protects endangered and "rare" species, subspecies, and varieties of plants.
- The California Endangered Species Act lists plants and wildlife as threatened or endangered (California Fish and Game Code 2070).
- The Federal Endangered Species Act (FESA), the Secretary of Commerce, and the Secretary of the Interior list plants and wildlife as threatened or endangered (16 USC 1533[a]; 16 USC 1533[a] [2]; 16 USC 1533 [c] [1]).
- The California Environmental Quality Act (CEQA), Guidelines Section 15380 includes plants and wildlife that may be considered rare or endangered if the species meets certain specified criteria.
- The California Native Plant Society designates rare, threatened, or endangered plants as List 1 and List 2, and plants about which more information is needed and plants with limited distributions as List 3 and List 4.
- The California Department of Fish and Game (CDFG) designates plants and wildlife as "species of special concern" and protects the destruction of nests and eggs of any bird (Section 3503).

- The federal Bald Eagle Protection Act prohibits persons within the United States (or places subject to U.S. jurisdiction) from "possessing, selling, purchasing, offering to sell, transporting, exporting or importing any bald eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof."
- The Migratory Bird Treaty Act (16 USC, Section 703, Supplement I, 1989) prohibits killing, possessing, or trading of migratory non-game birds.
- The California Fish and Game Code (Section 3503.5, 1992) protects birds of prey from unlawful take, possession, or destruction of any birds in the order Falconiformes or Strigiformes (birds of prey) and prohibits the possession or destruction of the nests or eggs of any such bird.
- The California Fish and Game Code (Section 3511 [birds], Section 5050 [reptiles and amphibians], and Section 4700 [mammals]) designates certain wildlife species as fully protected in California.

Protected Plant and Wildlife Areas

CDFG protects rare, threatened, and endangered species by managing habitat in legally designated ecological reserves or wildlife areas. Several of these reserves are located in the MTC region. Likewise, the USFWS maintains the National Wildlife Refuge system that includes units in the MTC region. Additional tracts of open space in the MTC region, supporting valuable wildlife resources, are administered by other federal and state agencies, including the National Park Service and California Department of Parks and Recreation.

The counties and many cities in the MTC region have established major parklands that sustain important wildlife resources. There are other quasi- and non-governmental organizations that oversee the management and protection of critical plant and wildlife communities, including the East Bay Regional Park District, San Francisco Public Utilities Commission, National Audubon Society, and The Nature Conservancy.

Wetlands

Wetlands are ecologically productive habitats that support a rich variety of both plant and animal life. The importance and sensitivity of wetlands has increased with the recognition of their value as recharge areas and filters for water supplies. In a jurisdictional sense, there are two definitions of a wetland, one definition adopted by federal agencies and a separate definition adopted by the State of California. Both definitions are presented below.

Within California, approximately 95 percent of the state's historic wetlands have been converted to other land uses. An estimated 5 million acres of wetlands were present in California in the 1780s; by the 1980s, the acreage of wetlands in California had been reduced to only 450,000 acres. The loss of wetlands has been pronounced in the Bay Area and MTC region because of the intense diking of shoreline wetlands in the Delta for agriculture as well as for salt production throughout San Francisco Bay, and as a result of hydraulic mining operations in the mid-1800s that lasted until at least the late 1800s.

Federal Wetland Definition. Wetlands are a subset of waters of the United States and receive protection under Section 404 of the Clean Water Act. The term "waters of the United States" as defined in the Code of Federal Regulations (33 CFR 328.3[a]; 40 CFR 230.3[s]) includes:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

2. All interstate waters including interstate wetlands. (Wetlands are defined by the federal government [CFR, Section 328.3(b), 1991] as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.);

    a. which are or could be used by interstate or foreign travelers for recreational or other purposes; or

    b. from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

    c. which are used or could be used for industrial purposes by industries in interstate commerce.

3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:

4. All impoundments of waters otherwise defined as waters of the United States under the definition;

5. Tributaries of waters identified in paragraphs (1) through (4);

6. Territorial seas; and

7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6).

8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA [328.3(a)(8) added 58 CFR 45035, August 25, 1993].

The regulations and policies of various federal agencies (e.g., the Corps, U.S. Department of Agriculture [USDA], NRCS (Natural Resources Conservation Service), EPA, USFWS, National

Marine Fisheries Service) mandate that the filling of wetlands be avoided to the extent possible. The Corps has primary federal responsibility for administering regulations that concern wetlands within the area. The Corps acts under the authority of the Clean Water Act (Section 404), which governs specified activities in "waters of the United States," including wetlands.

California Wetland Definition. Unlike the federal government, the CDFG has adopted the Cowardin et al. (1979) definition of wetlands:

> *Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface of the land or is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes (at least 50% of the aerial vegetative cover); (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year.*

Under normal circumstances, the federal definition of wetlands requires all three wetland identification parameters to be met, whereas the Cowardin definition requires the presence of at least one of these parameters. For this reason, identification of wetlands by CDFG consists of the union of all areas that are periodically inundated or saturated, or in which at least seasonal dominance by hydrophytes may be documented, or in which hydric soils are present. The CDFG does not normally have direct jurisdiction over wetlands unless they are subject to jurisdiction under Streambed Alteration Agreements or they support state-listed endangered species.

Regulation of Activities in Wetlands. The regulations and policies of various federal agencies (e.g., Corps, USDA, NRCS, EPA, USFWS, NMFS) mandate that the filling of wetlands be avoided unless it can be demonstrated that no practicable alternatives exist. The Corps has primary federal responsibility for administering regulations that concern waters and wetlands in the MTC region. In this regard, the Corps acts under two statutory authorities, the Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in "navigable waters," and the Clean Water Act (Section 404), which governs specified activities in waters of the United States, including wetlands. The Corps requires that a permit be obtained if a project proposes placing structures within navigable waters and/or alteration of waters of the U.S. below the ordinary high-water mark in nontidal waters. On agricultural lands, NRCS becomes the primary agency charged with determining the boundary of jurisdictional wetlands for implementation of the Food Securities Act, while the Corps retains primary permitting authority. EPA, USFWS, NMFS, and several other agencies provide comment on Corps permit applications. The EPA provides the primary criteria for evaluating the biological impacts of Corps permit actions in wetlands.

The state's authority in regulating activities in wetlands and "waters" at the site resides primarily with the CDFG and the State Water Resources Control Board (SWRCB). In addition, the California Coastal Commission has review authority for wetland permits within its planning jurisdiction. The CDFG provides comment on Corps permit actions under the Fish and Wildlife Coordination Act. CDFG is also authorized under the California Fish and Game Code, Sections 1600-1607, to develop mitigation measures and enter into a Streambed Alteration Agreement

with applicants that propose a project that would obstruct the flow or alter the bed, channel, or bank of a river or stream in which there is a fish or wildlife resource, including intermittent and ephemeral streams. The SWRCB, acting through the nine Regional Water Quality Control Boards, must certify that a Corps permit action meets state water quality objectives (Section 401, Clean Water Act).

Generally, the Corps and the California Coastal Commission define wetlands by using three categories: vegetation, soil, and hydrology. The Corps definition of wetlands generally requires that criteria based on all three categories be found for an area to be designated as a jurisdictional wetland. The Coastal Commission method, as defined by the California Coastal Act, specifies that an area may be delineated as a wetland based on one or more of these criteria.

In planning federal transportation projects, the MTC will consider environmental impacts to waters of the U.S. and associated sensitive species. A high priority is placed on the avoidance of adverse impacts to waters of the U.S. and associated sensitive species (including threatened and endangered species). Unavoidable impacts will be mitigated to the extent reasonable and practical.

Wetlands Stewardship. Many programs and policies have been adopted by federal, state, and regional agencies and by private entities to protect and restore wetlands in California. In 1993, a California Wetlands Conservation Policy was established. The goals of the policy were to establish a framework and a strategy that would:

- Ensure no overall net loss and achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property;
- Reduce procedural complexity in the administration of state and federal wetlands conservation programs; and
- Encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetlands conservation and restoration.

The policy recommended completion of a statewide inventory of wetlands that would lead to the establishment of a formal wetland acreage goal. This inventory is in progress.

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*
SPECIES LISTED AS THREATENED OR ENDANGERED		
Invertebrates		
Vernal pool fairy shrimp *Branchinecta lynchi*	FT/-- Critical Habitat	Grassland vernal pools
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT/--	Dependent on elderberry bushes, which may occur individually or associated with riparian habitats
Bay checkerspot butterfly *Euphydryas editha bayensis*	FT/-- Critical Habitat	Serpentine bunchgrass grassland
Mission blue butterfly *Icaricia icarioides missionensis*	FE/--	Grassland with Lupinus albifrons, L. formosa, and L. varicolor
San Bruno elfin butterfly *Incisalia mossii bayensis*	FE/--	Coastal scrub
Callippe silverspot butterfly *Speyeria callippe callippe*	FE/--	Native grasslands with Viola pedunculata as larval food plant
Myrtle silverspot butterfly *Speyeria zerene myrtleae*	FE/--	Native grasslands with Viola pedunculata as larval food plant
California freshwater shrimp *Syncaris pacifica*	FE/CE	Large, slow-moving freshwater streams in Sonoma and Napa Counties
Fish		
Tidewater goby *Eucyclogobius newberryi*	FE/CSC	Shallow waters of bays and estuaries
Delta smelt *Hypomesus transpacificus*	FE/CT	Brackish-water channels and sloughs of the Sacramento – San Joaquin Delta
Coho salmon – central California ESU *Oncorhynchus kisutch*	FT/CT	Unblocked Bay Area and coastal rivers and streams; particularly cooler water streams in Marin, Sonoma, and Napa Counties, and the Sacramento – San Joaquin Delta.
Central California coast steelhead *Oncorhynchus mykiss*	FT/CSC	Drainages of central California coastal rivers
Central coast Chinook salmon *Oncorhynchus tshawytscha*	FT/CSC	Drainages of central California coastal rivers

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*
Sacramento splittail *Pogonichthys macrolepidotus*	FT/CSC	Large sloughs and dead-end sloughs of the Sacramento – San Joaquin Delta that are fed by freshwater streams. Juveniles and adults utilize shallow edgewater areas lined by emergent aquatic vegetation.
Amphibians		
California tiger salamander *Ambystoma californiense*	FT/CSC Proposed Critical Habitat	Wintering sites occur in grasslands occupied by burrowing mammals; breed in ponds, vernal pools, and slow-moving or receding streams.
California red-legged frog *Rana aurora draytonii*	FT/CSC Proposed Critical Habitat	Breed in stock ponds, pools, and slow-moving streams with emergent vegetation; adjacent upland habitats are often used outside the breeding season.
Reptiles		
San Francisco garter snake *Thamnophis sirtalis tetrataenia*	FE/CE	Freshwater ponds and slow streams with emergent vegetation; nearby upland grasslands with small rodent burrows may also provide habitat for this species. Little is known about the seasonal movements of this species or its capacity for using upland areas.
Alameda whipsnake *Masticophis lateralis euryxanthus*	FT/CT	Coastal scrub of the East Bay Hills broken by scattered grassy patches, on rocky hillsides, gullies, or canyons with stream courses.
Giant garter snake *Thamnophis gigas*	FT/CT	Typically found in Central Valley wetlands, this species requires permanent or semi permanent water and dense vegetation of freshwater marshes and permanent streams. May also use drainage canals and irrigation ditches that hold water through most of the year.
Birds		
Marbled murrelet *Brachyramphus marmoratus*	FT/CE	Nests in dense, old-growth forests along coast
Western snowy plover *Charadrius alexandrinus nivosus*	FT/CSC	Nests and forages on sandy beaches on marine and estuarine shores; requires sandy, gravelly, or friable soils for nesting; may nest on salt pond levees or other suitable barren habitat.
American peregrine falcon *Falco peregrinus anatum*	--/CE	Forages in marshes and grasslands. Nesting habitat includes high, protected cliffs and ledges near water.

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*
California black rail *Laterallus jamaicensis coturniculus*	FSC/CT	Nests and forages in tidal emergent wetland with pickleweed
California clapper rail *Rallus longirostris obsoletus*	FE/CE	Nests and forages in emergent wetlands with pickleweed, cordgrass, and bulrush
California least tern *Sterna antillarum browni*	FE/CE	Nests along the coast from San Francisco Bay south to northern Baja California; colonial breeder on bare or sparsely vegetated flat substrates including sand beaches, alkali flats, landfills, or paved areas
Northern spotted owl *Strix occidentalis caurina*	FT/--	Nests in old-growth forests
Mammals		
Salt marsh harvest mouse *Reithrodontomys raviventris raviventris*	FE/CE	Saline emergent marshlands with dense pickleweed
San Joaquin kit fox *Vulpes macrotis mutica*	FE/CT	Patchily distributed in the Diablo Range and south to Bakersfield in undeveloped grasslands and agricultural land
Plants		
Large-flowered fiddleneck *Amsinckia grandiflora*	FE/CE/List 1B	Valley grassland and foothill woodland, this species has been reported from Contra Costa County, Alameda, and Santa Clara Counties
San Bruno Mtn. Manzanita *Arctostaphylos imbricata*	FSC/CE/List1B	Chaparral, coastal scrub
Pacific manzanita *Arctostaphylos pacifica*	FSC/CE/--	Chaparral, coastal scrub
Pallid manzanita *Arctostaphylos pallida*	FT/CE/List 1B	Chaparral habitats in Alameda and Contra Costa Counties
Tiburon Indian paintbrush *Castilleja affinis ssp. neglecta*	FE/CT/List 1B	Dry slopes in the Coast Ranges from San Mateo to Sonoma Counties
Coyote ceanothus *Ceanothus ferrisae*	FE/--/List 1B	Dry serpentine slopes in foothill woodlands and chaparral habitats in the Santa Cruz Mountains
Robust spineflower *Chorizanthe robusta var. robusta*	FE/--/List 1B	Coastal scrub, coastal sand dunes, openings in oak woodlands with sandy or gravelly soil
Fountain thistle *Cirsium fontinale var. fontinale*	FE/CE/List 1B	Grassland and openings in chaparral, in serpentinite seeps

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*
Suisun thistle *Cirsium hydrophilum var. hydrophilum*	FE/CE/List 1B	Brackish marshes around Suisun Bay.
Presidio clarkia *Clarkia franciscana*	FE/CE/List 1B	Coastal scrub, grassland (ultramafic)
Soft bird's beak *Cordylanthus mollis ssp. mollis*	FE/CR/List 1B	Heavy clay soils of either coastal salt or brackish marshes of northern San Francisco Bay.
Yellow larkspur *Delphinium luteum*	FE/CR/List 1B	Sea bluffs and northern coastal scrub
Santa Clara Valley dudleya *Dudleya setchellii*	FE/--/List 1B	Ultramafic grasslands
San Mateo woolly sunflower *Eriophyllum latilobum*	FE/CE/List 1B	Grassland, woodland slopes
Contra Costa wallflower *Erysimum capitatum ssp. angustatum*	FE/CE/List 1B	Antioch Dunes along the San Joaquin River; Contra Costa County
San Mateo woolly sunflower *Eriophyllum latilobum*	FE/CE/List 1B	Grassland, woodland slopes
Contra Costa wallflower *Erysimum capitatum ssp. angustatum*	FE/CE/List 1B	Antioch Dunes along the San Joaquin River; Contra Costa County
Marin western flax *Hesperolinon congestum*	FT/CT/List 1B	Grassland and openings in chaparral, often on serpentinite
Santa Cruz tarplant *Holocarpha macradenia*	FT/CE/List 1B	Coastal scrub, coastal sand dunes, openings in oak woodlands with sandy or gravelly soil
Contra Costa goldfields *Lasthenia conjugens*	FE/--/List 1B	Moist grasslands, vernal pools
White-rayed pentachaeta *Pentachaeta bellidiflora*	FE/CE/List 1B	Coastal scrub, grassland
San Francisco popcorn flower *Plagiobothrys diffusus*	FSC/CE/List 1B	Grasslands with marine influence
Metcalf Canyon jewel flower *Streptanthus albidus ssp. albidus*	FE/--/List 1B	Serpentine outcrops in chaparral habitats

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*
Tiburon jewel-flower *Streptanthus niger*	FE/CE/List 1B	Serpentine slopes among coastal prairie habitat; Marin County
Solano grass *Tuctoria mucronata*	FE/CE/List 1B	Vernal pools in valley grassland habitats; Solano County
OTHER SPECIES OF SPECIAL CONCERN		
Invertebrates		
Opler's longhorn moth *Adella oplerella*	FSC/--	Serpentine grasslands
Edgewood Park blind harvestman *Calicina minor*	FSC/--	Described from beneath rocks in serpentine grassland adjacent to scrub oaks
Serpentine phalangid *Calcina serpentinea*	FSC/--	Serpentine rocks and barrens
Monarch butterfly *Danaus plexippus*	--/*	Eucalyptus groves (winter sites)
Bridge's coast range shoulderband snail *Helminthoglypta nickliniana bridgesi*	FSC/--	Coastal scrub habitat and weedy pastures
Ricksecker's water scavenger beetle *Hydrochara rickseckeri*	FSC/--	Freshwater ponds, shallow water of streams, marshes, and lakes
Leech's skyline diving beetle *Hydroporus leechi*	FSC/--	Freshwater ponds, shallow water of streams, marshes, and lakes
Curved-foot hygrotus diving beetle *Hygrotus curvipes*	FSC/--	Vernal pools and alkali flats
San Francisco fork-tailed damselfly *Ischnura gemina*	FSC/--	Wetlands with emergent vegetation
Tiburon micro-blind harvestman *Micorcina tiburona*	FSC	Undersides of serpentine rocks near permanent springs; restricted to the Tiburon peninsula.
San Francisco lacewing *Nothochrysa californica*	FSC/--	Grasslands
Unsilvered fritillary butterfly	FSC/--	Native grasslands with Viola pedunculata as larval

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*
Speyeria adiaste adiaste		food plant
Fish		
Sacramento perch *Archoplites interruptus*	FSC/CSC	Slow-moving sloughs, streams, rivers, and lakes
River lamprey *Lampetra ayresi*	FSC/CSC	Pacific Ocean and estuaries; spawning in coastal streams from Alaska to San Francisco Bay
Pacific lamprey *Lampetra tridentata*	FSC/--	Adults inhabit estuaries and nearby ocean areas with spawning in upstream gravel beds. Larvae remain buried throughout most of their 5- to 7-year larval life and then move to downstream estuarine stream reaches.
Longfin smelt *Spirinichus thaleichthys*	FSC/CSC	Sacramento – San Joaquin Delta, this anadromous fish ascends rivers in cooler months to spawn.
Amphibians		
Foothill yellow-legged frog *Rana boylii*	FSC/CSC	Streams with quiet pools absent of predatory fish
Western spadefoot *Spea (=Scaphiopus) hammondii*	FSC/CSC	Floodplains and grassland pools
Reptiles		
Western pond turtle *Emmys (=Clemmys) marmorata*	FSC/CSC	Freshwater ponds and slow streams edged with sandy soils for laying eggs
San Joaquin coachwhip *Masticophis flagellum ruddocki*	FSC/CSC	Prairie, scrublands, woodlands, farmlands, or grasslands with varying amounts of cover
California horned lizard *Phrynosoma coronatum frontale*	FSC/CSC	Patchy open areas with sandy soils and available ant food sources
Birds		
Cooper's hawk *Accipiter cooperii*	CDFG 3503.5	Nests in riparian growths of deciduous trees and live oak woodlands
Sharp-shinned hawk *Accipiter striatus*	CDFG 3503.5	Nests in riparian growths of deciduous trees and live oaks
Tricolored blackbird *Agelaius tricolor*	FSC/CSC	Nests in freshwater marshes with dense stands of cattails or bulrushes, occasionally in willows, thistles, mustard, blackberry brambles, and dense shrubs and grains

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*
Great blue heron *Ardea herodias*	--/*	Nests in trees along lakes and estuaries
Burrowing owl *Athene cunicularia*	FSC/CSC	Nests and forages in low-growing grasslands that support burrowing mammals
Golden eagle *Aquila chrysaetos*	--/CSC	Nests in mountainous or hilly terrain and hunts over open grasslands habitats; common in Diablo Range
Great blue heron *Ardea herodias*	--/*	Nests in trees along lakes and estuaries
Northern harrier *Circus cyaneus*	--/CSC	Nests in coastal freshwater and saltwater marshes, nest and forages in grasslands
Yellow warbler *Dendroica petechia brewsteri*	--/CSC	Nests near wet habitats, particularly in willow and alder groves
White-tailed kite (nesting) *Elanus leucurus*	CDFG fully protected	Nests near wet meadows and open grasslands, dense oak, willow, or other large tree stands
California horned lark *Eremophila alpestris*	--/CSC	Nests and forages in barren dirt areas, shores, and gravel areas
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	FSC/CSC	Breeds in moist salt marsh habitats with dense, low cover
Yellow-breasted chat *Icteria virens*	--/CSC	Breeds in woodland edges and neglected pastures in thick willow habitats or shrubby wet meadows
Loggerhead shrike *Lanius ludovicianus*	FSC/CSC	Scrub, open woodlands, and grasslands
Alameda song sparrow *Melospiza melodia pusillula*	FSC/CSC	Year-round inhabitant of saline emergent wetlands in the south San Francisco Bay
San Pablo song sparrow *Melospiza melodia samuelis*	FSC/CSC	Year-round inhabitant of saline emergent wetlands of San Pablo Bay
Osprey *Pandion haliaetus*	--/CSC	Nests near freshwater lakes and large streams on large snags
Purple martin *Progne subis*	--/CSC	Natural nesting sites include old woodpecker holes, snags, and sometimes under bark
California spotted owl *Strix occidentalis occidentalis*	FSC/CSC	Nests in old-growth forests.

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*
Mammals		
Pallid bat *Antrozous pallidus*	--/CSC	Roosts in large-diameter trees
Berkeley kangaroo rat *Dipodomys heermanni berkeleyensis*	FSC/*	Foothill grassland, oak/pine woodlands, and open chaparral
Greater western mastiff bat *Eumops perotis californicus*	FSC/CSC	Breeds in rugged, rocky canyons and forages in a variety of habitats
San Pablo vole *Microtus californicus sanpabloensis*	--/CSC	Brackish-water emergent wetlands; largely confined to a few locations in San Pablo
Small-footed myotis *Myotis ciliolabrum*	FSC/--	Forages over grasslands and roosts in caves and rock crevices
Long-eared myotis *Myotis evotis*	FSC/--	Inhabits woodlands and forests
Fringed myotis *Myotis thysanodes*	FSC/--	Inhabits a variety of habitats, including pinyon-juniper woodland, valley-foothill hardwood, and hardwood-conifer forests
Long-legged myotis *Myotis volans*	FSC/--	Inhabits forests and woodland habitats, primarily oak and juniper woodlands
Yuma myotis bat *Myotis yumanensis*	FSC/--	Open forests and woodlands below 8,000 feet in close association with water bodies
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	FSC/CSC	Forests with moderate canopy cover and brushy understory
Pacific western big-eared bat *Plecotus townsendii townsendii*	FSC/CSC	Inhabits oak and conifer woodlands, broad-leaved forests, arid grasslands, deserts, and high mountain meadows
Suisun shrew *Sorex ornatus sinuosus*	FSC/CSC	Restricted to natural tidal salt and brackish marshes
Salt marsh wandering shrew *Sorex vagrans halicoetes*	FSC/CSC	Inhabits tidal salt marshes dense with pickleweed in the south San Francisco Bay.
Plants		
Sharsmith's onion *Allium sharsmithae*	--/--/1B	Rocky serpentine slopes in the Mt. Hamilton Range

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*
Montara manzanita *Arctostaphylos montaraensis*	FC/--/List 1B	Maritime chaparral, coastal scrub
Marin manzanita *Arctostaphylos virgata*	--/--/1B	Brushy slopes at the edge of closed-cone pine forests in Marin County
San Francisco Bay spineflower *Chorizanthe cuspidata var. cuspidata*	FSC/--/List 1B	Coastal bluff scrub, coastal dunes, coastal prairie, on sandy soils
Woolly-headed spineflower *Chorizanthe cuspidata var. villosa*	--/--/1B	Sandy soil, dunes, and northern coastal strand from Santa Cruz to Sonoma Counties
Mt. Hamilton thistle *Cirsium fontinale var campylon*	FSC/--/List 1B	Ultramafic seeps, sandy streams
Palo alto thistle *Cirsium praeteriens*	--/--/List 1B	Ultramafic seeps, sandy streams
Point Reyes bird's beak *Cordylanthus maritimus ssp. palustris*	FSC/--/List 1B	Once common to north-central coastal salt marshes, this species is now restricted to only a few locations from Point Reyes to west Berkeley and south.
Mt. Diablo bird's beak *Cordylanthus nidularius*	FSC/CR/List 1B	Serpentine slopes in chaparral habitats in Contra Costa County near Mt. Diablo
Mt. Hamilton coreopsis *Coreopsis hamiltonii*	FSC/--/List 1B	Steep, shale talus, woodland
Clustered lady's-slipper *Cypripedium fasciculatum*	FSC/--/List 4	Lower montane coniferous forests, north coast coniferous forests, usually sepentite seeps and streambanks.
Hospital Canyon larkspur *Delphinium californicum ssp. interius*	FSC/--/List 1B	Moist areas of the inner Coast Ranges from Contra Costa to Santa Clara counties.
Recurved larkspur *Delphinium recurvatum*	FSC/--/List 1B	Alkali sink or valley and foothill grassland communities
Western leatherwood *Dirca occidentalis*	--/--/1B	Broad-leaved upland forests, closed-cone coniferous forests, chaparral, cismontane woodland, north coast coniferous forests, riparian forests, riparian woodland; mesic sites
Brandegee's eriastrum *Eriastrum brandegeae*	FSC/--/List 1B	Volcanic material in chaparral and foothill woodlands

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*
Mt. Diablo buckwheat *Eriogonum truncatum*	--/--/1A	Chaparral, scrub, and grassland habitats of Alameda, Contra Costa, and Solano Counties
Coast wallflower *Erysimum ammophilum*	FSC/--/List 1B	Sandy coastal habitats
Diamond-petaled California poppy *Eschscholzia rhombipetala*	FSC/--/List 1B	Dry flats and brushy slopes below 3,500 feet in elevation
Marin checker lily *Fritillaria affinis var. tristulis*	--/--/1B	Coastal grasslands of western Marin County
Hillsborough chocolate lily *Fritillaria biflora var. ineziana*	--/--/1B	Cismontane woodland, grassland, on serpentinite
Talus fritillary *Fritillaria falcata*	FSC/--/List 1B	Serpentine talus slopes in chaparral and foothill woodlands
Fragrant fritillary *Fritillaria liliacea*	FSC/--/List 1B	Coastal scrub, valley and foothill grassland, coastal prairie; on heavy clay soils, often on ultramafic soils
San Francisco gumplant *Grindelia hirsutula var maritima*	FSC/--/List 1B	Coastal bluff scrub, coastal scrub, grasslands, on sandy or serpentinite soils
Diablo helianthella *Helianthella castanea*	FSC/--/List 1B	Openings in chaparral and broad-leaved upland forest
Congdon's tarplant *Hemizonia parryi ssp. congdonii*	FSC/CSC/List 1B	Valley grassland
Brewer's western flax *Hesperolinon breweri*	FSC/--/List 1B	Grassy or brushy serpentine slopes within chaparral or foothill woodlands of the outer Coast Ranges; often partly shaded
Drymaria-like western flax *Hesperolinon drymarioides*	FSC/--/List 1B	Dry slopes in foothill woodlands
Carquinez goldenbush *Isocoma arguta*	FSC/--/List 1B	Slopes of the Carquinez Straits in Solano and Contra Costa Counties
Delta tule pea *Lathyrus jepsonii var. jepsonii*	FSC/--/List 1B	Natural edges of sloughs and rivers in the Sacramento – San Joaquin Delta
Crystal Springs lessingia *Lessingia arachnoidea*	FSC/--/List 1B	Cismontane woodland, coastal scrub, grasslands, on serpentinite, often on roadcuts

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*
Smooth lessingia *Lessingia micradenia var. glabrata*	FSC/--/List 1B	Dry, open gravel slopes in serpentine or clay; from Santa Cruz Mountainns
Tamalpais lessingia *Lessingia micradenia var. micradenia*	FSC/--/List 1B	Chaparral and mixed evergreen forests on dry gravel or serpentine slopes; from Marin County
Coast lily *Lilium maritimum*	FSC/--/List 1B	Sandy soils, but also in brush and woods in coastal scrub and coastal coniferous habitats
Showy madia *Madia radiata*	--/--/List 1B	Grassy slopes in valley grasslands and foothill woodlands of the inner Coast Ranges from Contra Costa to Kern Counties
Robust monardella *Monardella villosa var. globosa*	--/--/List 1B	Cismontane woodland, openings in chaparral
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	--/--/List 1B	Vernal pools in valley grasslands and foothill woodlands
Marin County navarretia *Navarretia rosulata*	--/--/List 1B	Serpentine soils; noted in Marin County
North coast phacelia *Phacelia insularis var. continentis*	FSC/--/List 1B	Coastal strand and sand dunes in Marin and to Mendocino Counties
Mt. Diablo phacelia *Phacelia phacelioides*	FSC/--/List 1B	Cismontane woodland, chaparral
Hairless popcorn-flower *Plagiobothrys glaber*	--/--/List 1A	Largely confined to coastal salt marsh habitats along the south shore of San Francisco Bay, but also located in alkaline meadows in Santa Clara Valley and further south
Hooked popcorn-flower *Plagiobothrys uncinatus*	FSC/--/List 1B	Canyon sides and chaparral habitats
Rayless ragwort *Senecio aphanactis*	--/--/List 2	Dry, open places including chaparral and coastal sage scrub
Marin checkerbloom *Sidalcea hickmanii var. viridis*	FSC/--/List 1B	Chaparral, usually on serpentinite
San Francisco campion *Silene verecunda var. verecunda*	FSC/--/List 1B	Coastal bluff scrub, chaparral, coastal prairie, coastal scrub, grasslands with sandy soil
Most beautiful jewel-flower *Streptanthus albidus ssp. peramoenus*	FSC/--/List 1B	Serpentine grassland, chaparral

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name *Scientific Name*	*Listing Status USFWS/ CDFG/CNPS*	*General Habitat*
Tamalpais jewel-flower *Streptanthus batrachopus*	FSC/--/List 1B	Serpentine outcrops within chaparral; reported from Contra Costa and Marin Counties
San Francisco owl's-clover *Triphysaria floribunda*	FSC/--/List 1B	Coastal prairie and grasslands, on serpentinite
Caper-fruited tropidocarpum *Tropidocarpum capparideum*	FSC/--/List 1A	Alkaline hills, grasslands

LISTING STATUS CODES:
FEDERAL: (U.S. Fish and Wildlife Service)
FE = Listed as endangered (in danger of extinction) by the federal government.
FT = Listed as threatened (likely to become endangered within the foreseeable future) by the federal government.
FP = Proposed for listing as endangered or threatened.
FC = Candidate to become a proposed species.
FSC = Federal species of concern. May be endangered or threatened, but not enough biological information has been gathered to support listing at this time.

STATE: (California Department of Fish and Game)
CE = Listed as endangered by the State of California
CT = Listed as threatened by the State of California
CR = Listed as rare by the State of California (plants only)
CSC = California species of special concern
3503.5=Protection for nesting species of Falconiformes (hawks) and Strigiformes (owls)

CALIFORNIA NATIVE PLANT SOCIETY (CNPS)
List 1A: Plants presumed extinct in California
List 1B: Plants rare, threatened, or endangered in California and elsewhere
List 2: Plants rare, threatened, or endangered in California
List 3: Plants about which more information is needed
List 4: Plants of limited distribution

Source: CDFG, 2004; Hickman et al, 1993; Zeiner and Laudenslayer, 1988-1990; Moyle et al., 1995

ADDITIONAL ECOSYSTEMS IN THE BAY AREA

The following describes four additional ecosystems found in the San Francisco Bay Area.

COASTAL MARSH AND ESTUARIES

Coastal salt marshes around San Francisco Bay (including historically diked tidal marshes) are dominated by perennial pickleweed (Salicornia virginica), alkali heath (Frankenia grandifolia), fat hen (Chenopodium album), marsh gumplant (Grindelia stricta var. angustifolia), saltgrass (Distichlis spicata), and other salt-tolerant plants that are tolerant of regular inundation or soil saturation. Tidal salt marshes also may be bisected by a network of sloughs and small channels that facilitate tidal reach into the interior of the marsh. These channels are subject to more frequent and deeper flooding and therefore support different plant species, such as smooth cordgrass (Spartina foliosa) and alkali bulrush (Scirpus maritimus). These communities are sometimes categorized as northern coastal salt marsh, coastal brackish marsh, and coastal freshwater marsh, in order of decreasing tidal effects and salinity.

In more extensive slough systems, such as those in the North Bay and South Bay, the transition zones between sloughs and creeks are increasingly dominated by freshwater-adapted species such as California bulrush (Scirpus californicus) and cattails (Typha sp.). Extensive coastal marsh communities are present near the Transportation 2030 Plan corridors in the Sonoma Creek and Napa River complexes (North Bay east-west corridor), at Suisun Marsh (I-680 corridor), and in patches along US 101 in Palo Alto and Mountain View (Peninsula corridor).

There are few terrestrial animals in the salt marsh, and few resident bird species. Raptors that are typical of Bay Area salt marsh habitats include northern harrier (Circus cyaneus), red-tailed hawk (Buteo jamaicensis), and American kestrel (Falco sparverius). Migratory shorebirds that forage in the mudflats during low tide include black-necked stilt (Himantopus mexicanus), American avocet (Recurvirostra americana), long-billed curlew (Numenius americanus), marbled godwit (Limosa fedoa), and several sandpipers. During high tide, a few of the ducks that may be found in salt marsh environments include northern shoveler (Anas clypeata), American wigeon (Anas americana), northern pintail (Anas acuta), gadwall (Anas strepera), and canvasback (Aythya valisineria). Other common mammals in salt marsh habitats include California vole (Microtus californicus), house mouse (Mus musculus), and black-tailed jackrabbit (Lepus californicus).

Rare and endangered wildlife species that occur among the pickleweed and cordgrass include California clapper rail (Rallus longirostris obsoletus), California black rail (Laterallus jamaicensis coturniculus), western snowy plover (Charadrius alexandrinus nivosus), Alameda song sparrow (Melospiza melodia pusillula), San Pablo song sparrow (Melospiza melodia samuelis), salt marsh common yellowthroat (Geothlypis trichas sinuosa), salt marsh harvest mouse (Reithrodontomys raviventris), San Pablo vole (Microtus californicus sanpabloensis), Suisun shrew (Sorex ornatus sinuosus), and salt marsh wandering shrew (Sorex vagrans) may occur in areas with high-quality emergent wetlands and adjacent upland environs. Rare plants include Delta tule pea (Lathyrus jepsonii var. jepsonii), soft bird's beak (Cordylanthus mollis ssp. mollis), Point Reyes bird's beak Cordylanthus maritimus ssp. palustris), Suisun thistle (Cirsium hydrophilum var. hydrophilum),

and Suisun marsh aster (Aster lentus). Freshwater and salt marshes are sensitive communities because of historic and continuing loss of wetland habitats from agricultural conversion, urbanization, and flood control development, and because they provide habitat for several special-status species. Some of the Transportation 2030 Plan transportation improvement are proposed within coastal marsh and/or estuarine habitats and could affect the sensitive plants, wildlife, and/or wetland resources identified above. A few projects are located near existing facilities in areas that have been historically disturbed and are less likely to harbor endangered plant or wildlife resources. Such areas include the Vallejo Ferry terminal and the Port of Oakland facilities. Due to historical fragmentation and wetland fill, current MTC projects with large footprints in undisturbed marshlands are expected to decrease habitat and could result in direct impacts to endangered species.

WOODLANDS

Mixed oak woodlands are often composed of coast live oak, California black oak (Quercus kelloggii), valley oak (Quercus lobata), toyon (Heteromeles arbutifolia), and California buckeye (Aesculus californica). In this discussion, these woodlands are grouped with broad-leaved upland forests on steep north-facing slopes, which may additionally include big-leaf maple (Acer macrophyllum) and California bay (Umbellaria californica). The understory is dominated by herbaceous vegetation and consists of non-native grasses such as soft chess (Bromus mollis) and ripgut grass (Bromus diandrus), intermixed with native and non-native wildflowers including mission bells (Fritillaria affinis), chickweed (Stellaria media), bedstraw (Galium aparine), mugwort (Artemesia douglasiana), fiesta flower (Pholistoma auritum), and miner's lettuce (Claytonia perfoliata). The shrub layer of the understory, though sparse, often contains snowberry (Symphoricarpos albus), poison oak (Toxicodendron diversilobum), and California blackberry (Rubus ursinus). This community often occurs as an open savannah habitat, as seen near US 101 in Sonoma County, I-80 in Solano County, near the State Route 4 (bypass) corridor, but also as dense, closed canopy forests as seen near I-280 in San Mateo County (Peninsula corridor) and south of I-580 between the cities of Hayward and Pleasanton (I-580 corridor). These wooded communities frequently intergrade with adjacent habitats, such as between oak savannas and adjacent grasslands or chaparral, and between forested areas and riparian plant communities.

Coast live oak woodland provides water, foraging, nesting, cover, and migrating and dispersal corridors for a variety of wildlife species. Insect eaters such as ash-throated flycatcher (Myiarchus cinerascens), plain titmouse (Parus inornatus), and dark-eyed junco (Junco hyemalis) are woodland foliage gleaners. Bark gleaner species, such as scrub jay (Aphelocoma coerulescens), Stellar's jay (Cyanocitta stelleri), and acorn woodpecker (Melanerpes formicivorus), feed on insects as well as acorns. California quail and brown towhee (Pipilo fuscus) are the ground foliage gleaners in this habitat. Cooper's hawk and sharp-shinned hawk are often associated with this habitat, where they hunt small birds. Mammals such as gray squirrel (Sciurus griseus) forage and nest in the canopy of the trees, while long-tailed weasels (Mustela frenata) hunt on the ground for shrews (Sorex sp.) and California voles (Microtus californicus). Larger mammals such as blacktailed deer (Odocoileus hemionus) utilize the wet understory of this community (i.e., poison oak and blackberry) in the form of shelter and food from the berries. Amphibians such as

Pacific slender salamander (Batrachoseps attenuatus), rough-skinned (Taricha granulosa), and ensatina (Ensatina eschscholtzii) live under the cover of fallen leaf litter.

Special-status plant species associated with woodland habitats are often also found in adjacent chaparral and scrub habitats. In the Bay Area these species include: rayless ragwort (Senecio aphanactis), hooked popcorn-flower (Plagiobothrys uncinatus), Mt. Diablo phacelia (Phacelia phacelioides), Baker's navarretia (Navarretia leucocephala ssp. bakeri), showy madia (Madia radiata), Mt. Hamilton lomatium (Lomatium observatorium), Jepson's linanthus (Linanthus jepsonii), coast lily (Lilium maritimum), Contra Costa goldfields (Lasthenia conjugens), drymaria-like western flax (Hesperolinon drymarioides), Diablo helianthella (Helianthella castanea), talus fritillary (Fritillaria falcata), Hillsborough chocolate lily (Fritillaria biflora var. ineziana), San Mateo woolly sunflower (Eriophyllum latilobum), Brandegee's eriastrum (Eriastrum brandegeae), Santa Clara Valley dudleya (Dudleya setchellii), western leatherwood (Dirca occidentalis), Hospital Canyon larkspur (Delphinium californicum ssp. interius), Robust spineflower (Chorizanthe robusta var. robusta), big-scale balsamroot (Balsamorhiza macrolepis var. macrolepis), Marin manzanita (Arctostaphylos virgata), pallid manzanita (Arctostaphylos pallida), large-flowered fiddleneck (Amsinckia grandiflora), and Sharsmith's onion (Allium sharsmithae). Special-status wildlife species include those described for grassland and riparian habitats in addition to purple martin (Progne subis), forest-nesting raptors, and species such as tree swallow (Tachycineta bicolor), Bullock's oriole (Icterus bullockii), and many other nesting birds. These species are protected under the Migratory Bird Treaty Act.

EUCALYPTUS GROVE

This vegetation community is usually monotypic, with only one species providing canopy and very little undergrowth. However, eucalyptus groves gradually establish dominance over and crowd out native plant communities as they expand. Structurally, eucalyptus (Eucalyptus sp.) creates a dense, shady canopy. Volatile chemicals contained in the bark and leaf litter deposited by eucalyptus create poor growing conditions for most herbaceous and woody understory species and may suppress the germination of native seeds. Where fire hazard management techniques have not been applied, the understory of this community consists of a thick layer of bark, leaves, and poison oak (where openings in the canopy allow sufficient light to penetrate to the grove floor), which in turn creates a high fire hazard.

These forests offer perching and roosting sites for a variety of avian species, with raptors often nesting in the groves. The lack of understory growth limits habitat for insects and other invertebrates and thus for the reptiles that prey upon them. Likewise, mammals do not regularly use this habitat, except for cover and resting areas. However, myotis bat species and California slender salamanders (Batrachoseps attenuatus) have been observed in this habitat. Other than nesting raptors, no special-status plant or wildlife species are typically associated with pure eucalyptus groves.

INTERIOR WETLANDS

Freshwater seeps and wet meadows occur on permanently moist soil and are dominated by perennial grasses, sedges (Carex spp.), and rushes (Juncus spp.). In the Bay Area, these wetlands typically occur on grazed hillsides or at the base of grassland slopes. Some of the common vegetation series represented in these habitats are sedge, bulrush, cattail, and spikerush (Eleocharis sp.) series. Rare species found in freshwater seep habitats include blue skullcap (Scutellaria laterifolia) from the Delta region.

Vernal pools are seasonal freshwater pools that form in depressions over an impermeable soil layer (claypan or hardpan) or parent material. The vegetation in vernal pools is primarily annual species with low cover and a short life cycle. Ephemeral seasonal wetlands habitat that supports vernal pool species occurs in the eastern Livermore-Amador Valley (I-580 corridor), Solano County (I-80 corridor), the city of Fremont (near the Fremont–South Bay corridor), the Brentwood area (State Route 4 corridor), and near the Napa County Airport (Napa Valley subarea). In addition, alkali meadows and seeps in Contra Costa County (State Route 4 corridor and I-580 corridor) support a similar cast of vernal pool endemic species. These pools support a distinctive flora with a number of endemic and rare species. Special-status invertebrates found in the above-described habitats include vernal pool fairy shrimp (Branchinecta lynchi) and vernal pool tadpole (Lepidurus packardi). Freshwater emergent wetlands and adjacent grassland habitats in portions of the I-80 corridor in Solano County support populations of the federal-and state-threatened giant garter snake (Thamnophis gigas). Special-status plants include Solano grass (Tuctoria mucronata), vernal pool smallscale (Atriplex persistens), San Joaquin saltbush (Atriplex joaquiniana), brittlescale (Atriplex depressa), and alkali milk vetch (Astragalus tener var. tener).